



# FINAL Supplemental Environmental Impact Statement, Greater Sage-Grouse 2020

## Three Hard Looks : 2015, 2019 and 2020



**143 alternatives**  
considered in **18 EISs**



**54**  
public meetings



**48,734**  
total pages of NEPA analysis



**2,313**  
people attended



**\$17.1 million**  
total cost



**326**  
partners and  
cooperators

## Public Comments

**8,512** unique scoping comments

**16,862** substantive comments on draft EISs

## Habitat Investments

### Treatment and Restoration

**2013–19** **\$294 million** **2.7 million acres**

**2020** **\$37 million** **584,000 acres**





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BUREAU OF LAND MANAGEMENT  
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In reply refer to:  
1793 (930)

**OCT 13 2020**

Dear Reader:

The Idaho Greater Sage-Grouse Final Supplemental Environmental Impact Statement (FSEIS) is available for your review. The Bureau of Land Management (BLM) prepared this document in accordance with the National Environmental Policy Act of 1969 (NEPA), as amended, the Federal Land Policy and Management Act of 1976, as amended, implementing regulations, and other applicable law and policy. Please note when reading this document that we refer to the entire planning process that culminated in a Record of Decision in March 2019, as the 2019 Planning Process or Effort. The NEPA analysis, including the Draft Environmental Impact Statement (DEIS) and the Final Environmental Impact Statement (FEIS) were completed in 2018, so we refer to those documents as the 2018 DEIS and the 2018 FEIS.

The affected area includes the following BLM Idaho Field Offices: Owyhee, Four Rivers, Bruneau, Jarbidge, Burley, Shoshone, Pocatello, Upper Snake, Challis, and Salmon. The planning area encompasses approximately 11.4 million surface acres administered by the BLM and approximately 27 million subsurface acres in Ada, Adams, Bear Lake, Bingham, Blaine, Bonneville, Butte, Camas, Caribou, Cassia, Clark, Custer, Elmore, Fremont, Gem, Gooding, Jefferson, Jerome, Lemhi, Lincoln, Madison, Minidoka, Oneida, Owyhee, Payette, Power, Twin Falls, and Washington Counties.

The BLM has prepared this FSEIS to review its previous NEPA analysis and clarify and augment it where necessary. This FSEIS addresses four specific issues: The range of alternatives, need to take a hard look at environmental impacts, cumulative effects analysis, and the BLM's approach to compensatory mitigation. The BLM's FSEIS will help the BLM determine whether its 2015 and 2019 land use planning and NEPA processes have sufficiently addressed Greater Sage-Grouse habitat conservation or whether the BLM should initiate a new land use planning process to consider additional alternatives or new information.

Following the publishing of the Notice of Availability for the Draft Supplemental Environmental Impact Statement (DSEIS) in the Federal Register on February 21, 2020 (85 FR 10185), the BLM received public comments for 90 days, through May 21, 2020. Across the Idaho Draft SEIS and five other Draft SEISs for other BLM State Offices, a total of 126,062 submissions were received; 222 of these were considered unique submissions. In addition, the BLM received 125,840 campaign letters spearheaded by two separate organizations. In accordance with the



NEPA, the BLM reviewed and considered all substantive comments received, and provides responses to such comments in this FSEIS.

To address public comments raised during this supplemental analysis, the BLM convened a team of biologists and land use planners to evaluate scientific literature provided to the agency. Upon review, the BLM found that the most up-to-date Greater Sage-Grouse science and other information has incrementally increased, and built upon, the knowledgebase of Greater Sage-Grouse management evaluated by the BLM most recently in its 2019 land use plan amendments, but does not change the scope or direction of the BLM's management; however, new science does suggest adaptations to management may be warranted at site-specific scales.

After reviewing public comments and completing the new science evaluation, the BLM determined that the most recent scientific information relating to Greater Sage-Grouse is consistent with the BLM's environmental analysis supporting its 2019 Greater Sage-Grouse land use plan amendments.

You can access the FSEIS on the project website at: <https://goo.gl/Jd8uVf>. Hard copies are also available for public review at BLM offices within the planning area.

Thank you for your continued interest in Greater Sage-Grouse management. We appreciate the information and suggestions you contributed to the NEPA process.

Sincerely,

A handwritten signature in blue ink, appearing to read 'John F. Ruhs', with a long horizontal line extending to the right.

John F. Ruhs  
State Director



**Idaho Greater Sage-Grouse**  
**Final Supplemental Environmental Impact Statement**  
**November 2020**

**Responsible Agency:** United States Department of the Interior  
Bureau of Land Management

**Abstract:** This final supplemental environmental impact statement (FSEIS) has been prepared by the United States Department of the Interior (DOI), Bureau of Land Management (BLM). The FSEIS describes and analyzes the eight alternatives considered during the 2015 and 2019 Greater Sage-Grouse planning processes, BLM's consultation and coordination process with federal and state stakeholders, and the rigorous analysis completed to align BLM Greater Sage-Grouse management with the State of Idaho's plans.

On October 16, 2019, the US District Court for the District of Idaho issued an order granting a motion for a preliminary injunction filed by Plaintiffs Western Watersheds Project, WildEarth Guardians, Center for Biological Diversity, and Prairie Hills Audubon Society. The court found that the Plaintiffs were likely to succeed on the merits of their claims that the BLM violated the National Environmental Policy Act (NEPA) when adopting the 2019 Greater Sage-Grouse plans. The BLM has prepared this FSEIS to review its previous NEPA analysis, clarify and augment it where necessary, and provide the public with additional opportunities to review and comment. The BLM's FSEIS will help the BLM determine whether its 2015 and 2019 land use planning and NEPA processes have sufficiently addressed Greater Sage-Grouse habitat conservation or whether the BLM should initiate a new land use planning process to consider additional alternatives or new information. To inform this decision that the BLM will make, it has prepared this FSEIS to address four specific issues: the range of alternatives, need to take a "hard look" at environmental impacts, cumulative effects analysis, and the BLM's approach to compensatory mitigation.

*References to the CEQ regulations throughout this SEIS are to the regulations in effect prior to September 14, 2020. The revised CEQ regulations effective September 14, 2020 are not referred to in this SEIS because the NEPA process began prior to this date.*

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## ACRONYMS AND ABBREVIATIONS

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Full Phrase

ACEC	Area of Critical Environmental Concern
AML	Appropriate Management Level
ARMPA	approved resource management plan amendment
BLM	Bureau of Land Management
BMP	best management practice
BSU	Biologically Significant Unit
CEA	Cumulative Effects Analysis
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
COT	Conservation Objectives Team
CSU	controlled surface use
CX	Categorical Exclusion
DNA	Determination of NEPA Adequacy
DOI	US Department of the Interior
DSEIS	draft supplemental environmental impact statement
EIS	environmental impact statement
ESA	Endangered Species Act
FLPMA	Federal Land Policy and Management Act
FSEIS	final supplemental environmental impact statement
GHMA	General Habitat Management Area
IDFG	Idaho Department of Fish and Game
IHMA	Important Habitat Management Area
IM	Instruction Memorandum
LCHMA	Linkage Connectivity Habitat Management Area
LG	Livestock Grazing
LHA	Land Health Assessment
LUPA	Land Use Plan Amendment
MAA	Management Alignment Alternative
MD	Management Decision
MOA	Memorandum of Agreement
NEPA	National Environmental Policy Act
NRCS	Natural Resource Conservation Service
NSO	no surface occupancy
NTT	National Technical Team
OHMA	Occupied Habitat Management Area
OHV	Off-highway Vehicle
PHMA	Priority Habitat Management Area

RDF	required design feature
RMP	resource management plan
RMPA	resource management plan amendment
RNA	Research Natural Area
ROD	record of decision
ROW	right of way
SFA	Sagebrush Focal Area
SSS	Special Status Species
TL	timing limitation
US	United States
USFWS	US Fish and Wildlife Service
USGS	US Geological Survey
WAFWA	Western Association of Fish and Wildlife Agencies
WEM	Waivers, Exceptions, and Modifications

# Executive Summary

## ES.I INTRODUCTION

Greater Sage-Grouse is a state-managed species that depends on sagebrush steppe ecosystems. These ecosystems are managed in partnership across its range by federal, state, and local authorities. State agencies responsible for fish and wildlife management possess broad responsibility for protecting and managing fish, wildlife, and plants within their borders, except where preempted by federal law. Similarly, the BLM has broad responsibilities to manage public lands and resources for the public's benefit. Approximately half of Greater Sage-Grouse habitat is managed by the BLM and Forest Service. State agencies are at the forefront of efforts to maintain healthy fish and wildlife populations and to conserve at-risk species. State-led efforts to conserve the species and its habitat date back to the 1950s. For the past two decades, state wildlife agencies, federal agencies, and many others in the range of the species have been collaborating to conserve Greater Sage-Grouse and its habitats. The BLM prepared this Final Supplemental Environmental Impact Statement (FSEIS) to clarify analysis from the 2018 Final Environmental Impact Statement (2018 FEIS) published as part of the 2019 Plan Amendment Process and subsequent Record of Decision. This FSEIS clarifies the range of alternatives analyzed, the range-wide nature of the analysis, and other aspects of the 2018 FEIS where information was incorporated by reference from the 2015 Greater Sage-Grouse Land Use Plan Amendments.

In 2010, the US Fish and Wildlife Service (USFWS) determined that listing the Greater Sage-Grouse under the Endangered Species Act of 1973 (ESA) was “warranted, but precluded” by other priorities. In its determination, the USFWS found there to be inadequate regulatory mechanisms to protect Greater Sage-Grouse and conserve its habitat. In response, the BLM, in coordination with the Forest Service, USFWS, and state agencies, developed a management strategy that included targeted Greater Sage-Grouse management actions. In 2015, the BLM and Forest Service adopted land use plan amendments and revisions to 98 BLM and Forest Service land use plans across ten western states. These planning decisions addressed, in part, threats to the Greater Sage-Grouse and its habitat. The amended land use plans govern the management of 67 million acres of Greater Sage-Grouse habitat on federal lands.

In September 2015, the USFWS determined that the Greater Sage-Grouse did not warrant listing under the ESA. The USFWS based its 2015 determination, in part, on the regulatory certainty provided by the conservation commitments and management actions in the federal planning decisions, as well as on other private, state, and federal conservation efforts.

The 2015 plans recommended that sagebrush focal areas (SFAs) be proposed for withdrawal from location and entry under the Mining Law of 1872. While the BLM later proposed to withdraw these areas, it canceled that proposed withdrawal on October 11, 2017. The BLM determined that the proposal to withdraw these areas was unreasonable in light of the data that showed that mining affected less than 0.1 percent of Greater Sage-Grouse across its occupied range.

On March 29, 2017, the Secretary of the Interior issued Secretary's Order 3349, *American Energy Independence*. It ordered DOI agencies to reexamine practices “to better balance conservation strategies and policies with the equally legitimate need of creating jobs for hard-working American families.”



On June 7, 2017, the Secretary issued Secretary's Order 3353 with a purpose of enhancing cooperation among eleven western states and the BLM in managing and conserving Greater Sage-Grouse. Secretary's Order 3353 directed an Interior Review Team, consisting of the BLM, the USFWS, and US Geological Survey (USGS), to coordinate with the Sage-Grouse Task Force. They also were directed to review the 2015 Greater Sage-Grouse plans and associated policies to identify provisions that may require modification, including opportunities to enhance consistency with individual state plans and better balance the BLM's multiple-use mission, as directed by Secretary's Order 3349.

On August 4, 2017, the Interior Review Team submitted its Report in Response to Secretary's Order 3353. The report the team recommended modifying the Greater Sage-Grouse plans and associated policies to better align with the individual state plans. On August 4, 2017, the Secretary issued a memo to the Deputy Secretary directing the BLM to implement the recommendations found in the report.

In the *Federal Register* of October 11, 2017, the BLM published the Notice of Intent to Amend Land Use Plans Regarding Greater Sage-Grouse Conservation and Prepare Associated Environment Impact Statements or Environmental Assessments.

The BLM continues to prioritize efforts to conserve Greater Sage-Grouse and restore sagebrush habitat. From Fiscal Year 2017 to Fiscal Year 2020, the BLM has treated on average over 550,000 acres of Greater Sage-Grouse habitat every year. In Fiscal Year 2020, the BLM treated approximately 584,000 acres. These 2020 treatments included approximately 162,000 acres of conifer removal; 71,000 acres of fuel breaks; 203,000 acres with invasive species treatments; 42,000 acres of habitat protection; and restored habitat on 106,000 acres of uplands and over 700 acres of riparian habitat. In 2020, Idaho conducted habitat treatments on 136,000 acres.

The BLM is committed to working directly with local communities on sagebrush conservation efforts and to emulate the successes demonstrated by the Natural Resources Conservation Service (NRCS) through the Sage-Grouse Initiative on private lands. These efforts include:

- an agreement with the Intermountain West Joint Venture to work with local cattlemen associations to improve sagebrush rangeland conditions through actions such as controlling invasive species, improving mesic areas, and removing invasive conifers;
- a Memorandum of Understanding between the BLM, NRCS, and the Forest Service resulting in development of a map that identifies areas where the agencies have ongoing restoration projects and opportunities for additional collaboration across land ownerships and associated landscapes;
- promoting a locally led collaborative conservation, the BLM, the USFWS, and the Geological Survey are collaborating with the Western Association of Fish and Wildlife Agencies as they lead the development and implementation of the Sagebrush Conservation Strategy;
- working with livestock permittees and stakeholders on "targeted grazing" to utilize grazing as a tool to create and maintain fuel breaks to manage the threats of wildfire and invasive species in or next to Greater Sage-Grouse habitats; and,
- working to develop "outcome-based grazing" to provide greater flexibility for livestock permittees and land managers to meet habitat objectives as conditions on-the-ground change.

During the 2019 planning process's public scoping period, the BLM sought public comments on whether all, some, or none of the 2015 Greater Sage-Grouse plans should be amended, what issues should be

considered, and if plans should be completed at the state level rather than at the national level. In addition, the BLM recognizes that the Greater Sage-Grouse is a state-managed species that depends on sagebrush steppe habitats managed in partnership by federal, state, and local authorities. Input from governors would weigh heavily when the BLM considers what management changes should be made and when ensuring consistency with the BLM's multiple-use mission.

Further, in the 2018 DEIS the BLM requested public comments on the BLM's approach to compensatory mitigation. In response to these comments and information supplied by the states about how to align with their compensatory mitigation laws and policies, the 2018 Final EIS clarified the BLM's approach to compensatory mitigation in its Management Alignment Alternative. Through the Draft SEIS, the BLM sought additional comment from the public on compensatory mitigation.

This FSEIS also addresses and clarifies the BLM's reliance on scientific information, including how the BLM addresses the recommendation and objectives in the National Technical Team [NTT] and Conservation Objectives Team [COT] reports. The BLM, the USFWS, states and other federal agency partners prepared the NTT (2011) and the COT (2013) reports to identify rangewide Greater Sage-Grouse conservation objectives and conservation measures that would: inform the USFWS 2015 decision under the Endangered Species Act and for partners; and provide guidance for the BLM to consider through land use planning, which the BLM did in 2015 and 2019, and again in this FSEIS.

Further, at the time that the NTT and COT reports were being developed, the BLM, USFWS, and state agencies had not completely developed or established the robust programs to conserve Greater Sage-Grouse that exist today.

In 2015, the BLM developed an action alternative around the NTT report. In the 2018 FEIS, the BLM incorporated this analysis by reference. The BLM also coordinated with the USFWS during the process culminating in the 2019 RODs to make sure that the conservation measures from the NTT and COT informed the management alignment alternative (**Appendix S-1**).

Idaho BLM, the Fish and Wildlife Service, and the Idaho Governor's Office of Species Conservation used the COT report as the benchmark when developing the Management Alignment Alternative. The USFWS was a cooperating agency that attended all meetings. They verified that the changes developed to align BLM management with the State plans were consistent with conservation measures in the COT Report (**Appendix S-1**). Including the USFWS as a cooperating agency during the 2019 planning process ensured that BLM used the same materials and newest science that the USFWS uses and recommends for Greater Sage-Grouse management.

This FSEIS also clarifies how the BLM considered comments, including those of other federal agencies (including EPA) and experts, when developing its 2019 planning decisions.

In 2018, the Environmental Protection Agency (EPA) provided comments on the Draft RMPAs/EISs. Specifically, they provided six comments on the Idaho Draft RMPA/EIS, seven comments on the Nevada/Northeast California Draft RMPA/EIS, six on the Utah Draft RMPA/EIS, three on the Wyoming Draft RMPA/EIS, six on the Oregon Draft RMPA/EIS, and five on the Colorado Draft RMPA/EIS. EPA's comments include suggestions and questions regarding lek buffers, recent science, mitigation, adaptive management, and fluid minerals. BLM responded to each of EPA's comments and made corrections

and/or changes in the 2018 FEISs. The complete EPA comment analysis can be found in the administrative record.

## **ES.2 PURPOSE OF AND NEED FOR ACTION**

In the Federal Land Policy and Management Act (FLPMA), Congress provided the BLM with discretion and authority to manage public lands for multiple use and sustained yield and declared it the policy of the United States to, consistent with the laws governing the administration of the public lands, coordinate planning activities with the land use planning and management programs of other federal, state, and local governments. Further, FLPMA specifically provides that it neither enlarges nor diminishes the authority of the states in managing fish and wildlife. As the sovereign entities with the lead role in managing game species, including Greater Sage-Grouse, states play a critical role in conserving the Greater Sage-Grouse and its habitat.

In the 2019 Planning effort the BLM modified its approach to managing Greater Sage-Grouse habitat in land use plans by (1) enhancing cooperation and coordination with the State of Idaho, (2) aligning with DOI and BLM policies issued since 2015, and (3) incorporating appropriate management flexibility and adaptation to better align with Idaho's conservation plan. The BLM achieved these goals while maintaining the vast majority of Greater Sage-Grouse protections it incorporated into its land use plans in 2015. By implementing these land use plan conservation measures and continuing to exercise its discretion to approve future project proposals under appropriate terms and conditions or deny them where appropriate, the BLM can adequately protect Greater Sage-Grouse and its habitat while meeting its general obligation under FLPMA to manage public lands under principles of multiple use and sustained yield.

On October 16, 2019, the US District Court for the District of Idaho issued an order granting a motion for a preliminary injunction filed by Plaintiffs Western Watersheds Project, WildEarth Guardians, Center for Biological Diversity, and Prairie Hills Audubon Society. The court found that the Plaintiffs were likely to succeed on the merits of their claims that the BLM violated the National Environmental Policy Act (NEPA) when adopting the 2019 Greater Sage-Grouse plans.

The BLM has prepared this FSEIS to review its previous NEPA analysis, clarify and augment it where necessary, and provide the public with additional opportunities to review and comment. The BLM's FSEIS will help the BLM determine whether its 2015 and 2019 land use planning and NEPA processes have sufficiently addressed Greater Sage-Grouse habitat conservation or whether the BLM should initiate a new land use planning process to consider additional alternatives or new information. To inform this decision that the BLM will make, it has prepared this FSEIS to address four specific issues: the range of alternatives, need to take a hard look at environmental impacts, cumulative effects analysis, and the BLM's approach to compensatory mitigation.

## **ES.3 ITEMS TO BE CLARIFIED IN THIS FSEIS**

The items considered in this FSEIS are related to the analysis in the 2018 Final EIS. These items are:

- clarifying the range of alternatives (including how the BLM considered the full range of the 2015 alternatives in the 2019 planning process),



- taking a hard look and using the best available science (including clarified effects analysis, how the 2015 and 2019 FEISs addressed the NTT and COT recommendations and conservation measures) (**Appendix S-1**),
- clarifying that the cumulative effects analysis was done at the range wide level and organized by WAFWA Management Zone (MZs) Updated language also highlights why WAFWA MZs were used,
- an updated Reasonably Foreseeable Future Actions.

#### **ES.4 NEW SCIENCE AND INFORMATION CONSIDERED BY THE BLM**

Land use plan decision-making is a multi-faceted and collaborative process. It involves evaluating scientific information at landscape scales to anticipate the potential environmental consequences of different policy and regulatory considerations. Science aides this process by educating policy makers on these potential consequences. Science does not and cannot tell policy makers how to weigh competing values and goals, particularly in a multiple-use environment.

The BLM has long utilized the best available science and information to facilitate informed choices among different values for policy and management decisions regarding the Greater Sage-Grouse. The agency has simultaneously sought to adapt and align its efforts with other federal and state management frameworks. Science, regulations, and policy considerations help define how the BLM can adaptively implement its multiple-use mission, including habitat management, while supporting a state's obligation to manage wildlife populations.

The BLM's decade-long land use planning process for Greater Sage-Grouse began with the best available science at that time, and the agency has consistently built upon that body of knowledge to inform its adaptive management. In 2011, the BLM assembled a "National Technical Team" (NTT), comprising state and federal land managers and scientists to review the scientific literature available at that time. On December 21, 2011, the NTT finalized a document entitled *A Report on National Greater Sage-Grouse Conservation Measures*, also known as the *National Technical Team Report* (NTT Report). The NTT Report was developed to synthesize "the latest science and best biological judgement" from the available literature (NTT Report, Introduction, page 5) and was not itself a new or original scientific product.

While the NTT Report provided a synthesis of available information regarding sage-grouse management, it did not evaluate conservation measures against other regulatory and policy requirements associated with land use planning and NEPA; nor did it provide conservation measures specific to all populations, landscapes, and site-specific condition. The NTT Report acknowledges this inherent uncertainty and clearly indicates the conservation measures are not management decisions. Rather, the NTT Report was intended "to assist [the BLM] in making management decisions." (NTT Report, Introduction, page 5.) In other words, "the conservation measures described in [the] report *are not an end point* but, rather, *a starting point* to be used in the BLM's planning processes" (ibid, page 5) (emphasis added). The BLM was not bound to the NTT Report recommendations and has subsequently built upon that body of knowledge and considered new policy and regulatory considerations to adapt its management to changing circumstances.

The BLM understood the NTT Report to be a compendium of conservation measures based on best science available and was meant to be adapted based on site-specific considerations. The BLM anticipated adjustments to the conservation measures to address local ecological site variability,

regulatory frameworks, and an evolving body of science related to Greater Sage-Grouse management, and intended its management and planning process to be adaptive to changing scientific, regulatory, and policy considerations. In point of fact, the BLM issued policy in 2012 (IM 2012-044) guiding use of the NTT Report in land use planning and instructing the BLM to consider its recommended conservation measures insofar as they were consistent with applicable law.

While the BLM's Greater Sage-Grouse habitat management efforts build upon recommendations in the NTT Report, its approach has adapted as expected to new information, policy, regulation, and informed choices among competing uses of Public Lands. At regular intervals, the BLM has assessed and synthesized new science, using it to inform efforts to better align its management with state and local frameworks. The BLM first initiated its own assessment through the NTT as described above, followed by the USFWS efforts to develop the COT report. The BLM then commissioned a second synthesis from USGS in 2017 prior to initiating the 2019 planning process. Finally, the BLM coordinated with USGS in 2020 to review scientific literature presented during the DSEIS comment period. The USGS has continuously evaluated science published after 2018 and has maintained an annotated bibliography of scientific research on greater sage-grouse. The BLM relied upon USGS' annotated bibliography for the 2020 review. Out of the 75 articles considered by the BLM as new science, USGS had already reviewed 67 articles. BLM biologists summarized the remaining eight papers submitted by the public for validation.

The BLM plans also call for rigorous annual reviews of adaptive management triggers and anthropogenic disturbances, that allows the plans to adapt with changing information and conditions on the ground.

This common progression of informed decision-making and adaptive management is further exemplified by the BLM application of the Conservation Objectives Team report.

In 2012 the director of the USFWS convened a Conservation Objectives Team (COT) of state and USFWS representatives. The team developed a peer-reviewed report (COT Report) that established broad conservation objectives based on the "best scientific and commercial data available at the time of its release" (COT Report, page ii). Like the NTT, the COT Report was an assessment of the best available science at the time and did not present new or original scientific research.

The COT Report, released in March 2013, identifies conservation objectives, measures, and options for each of the Greater Sage-Grouse threats assessed. The COT Report also identified Priority Areas for Conservation (PACs) which were described as "the most important areas needed for maintaining Greater Sage-Grouse representation, redundancy, and resilience across the landscape" (ibid, page 13). In contrast to the NTT Report, the COT Report identified threats to each PAC, recognizing that threats vary across the range, and therefore corresponding management should vary to address those threats. The preface to the report is clear that the COT report "is guidance only" and that the "identification of conservation objectives and measures does not create a legal obligation beyond existing legal requirements" (ibid, page ii). Further, the preface notes that the objectives "are subject to modification as dictated by new findings, changes in species' status, and the completion of conservation actions" (ibid, page ii).

Similar to the NTT Report, the BLM understood that the COT Report was a compendium of conservation objectives established relative to identified threats to Greater Sage-Grouse conservation. The COT Report recommended objectives for the BLM to evaluate and consider but was not bound to achieving only those objectives. Further, like the NTT Report, the COT recognizes

uncertainty in land management and anticipated adapting management strategies to changing scientific, regulatory, and policy considerations. In the management of natural resources such as Greater Sage-Grouse habitat, it is unlikely that a manager knows with certainty that a management action will result in precisely the expected outcome. While science and information can inform the managers decision among a variety of management options, it cannot account for all variability across landscapes, time, and conditions. The COT acknowledges that varying management strategies may be employed to achieve the recommended conservation objectives. The COT does not establish an expectation that conservation outcomes will be uniform across all BLM managed landscapes. The BLM further recognizes the challenges land managers face when selecting from among a range of management options to achieve objectives and outcomes that may be uncertain due to varying natural conditions. This recognition creates a variable management framework wherein the BLM may choose locally from among a range of informed science, policy, and regulatory considerations. See **Appendix S-1** for a full discussion of the NTT and COT reports and their role in informing decisions in the 2015 and 2019 plans.

The 2015 plans took a one-size-fits-all approach. Through a decade of land use planning and implementation of Greater Sage-Grouse management decisions, the BLM has continuously collaborated in the development, synthesis, and application of new science. Throughout this planning and conservation effort, the BLM has remained well-connected to our partners. Many of these cross-agencies partnerships are facilitated by the Western Association of Fish and Wildlife Agencies (WAFWA). For example, WAFWA has convened the Sagebrush Executive Oversight Committee to coordinate sage-grouse and sagebrush conservation efforts across Federal and State agencies. The BLM is represented on this committee by the Assistant Director for Resources and Planning. WAFWA has also formed sub-committees to work on a Sagebrush Conservation Strategy and a 2020 Sage-grouse Conservation Assessment, of which the latter will rely heavily on the BLM's Five-Year Sage-grouse Monitoring Report. The BLM has also formed other partnerships, such as with the Natural Resources Conservation Service's Sage Grouse Initiative (now a component of NRCS's Working Lands for Wildlife initiative) and with the Intermountain West Joint Venture. There are also several state-level agreements related to BLM's management of sagebrush and sage-grouse.

As acknowledged by the NTT and COT reports and the growing body of scientific information, there exist site-specific variables not anticipated in either report or adopted in the 2015 approved plans. The 2019 plans thoughtfully considered the unique needs of each state's specific regulatory and policy considerations and addressed new science in that capacity. This tailored and adaptive approach accounted for more site-specific conditions, maximizing the collaborative approach between federal and state resource management, in a way that the 2015 plans failed to do.

To address science and information raised through public comments on this supplemental analysis, the BLM convened a team of biologists and land use planners to evaluate scientific literature provided to the agency. The BLM found that the most up-to-date Greater Sage-Grouse science and other information has incrementally increased, and built upon, the knowledgebase of Greater Sage-Grouse management evaluated by the BLM most recently in its 2019 land use plan amendments, but does not change the scope or direction of the BLM's management. While the NTT, the COT and this new science and information remain consistent with the scope of the 2019 planning decisions, new science does suggest adaptations to management may be warranted at site-specific scales. This is precisely the approach envisioned by the NTT and COT reports as well as the BLM's decades long planning efforts to address local actions that may affect Greater Sage-Grouse. Where appropriate, the BLM will consider this

science and information through implementation-level NEPA analysis, consistent with its approved land use plans, policies, and regulatory frameworks.

## **ES.5 ANALYSIS CONCLUSIONS**

The additional information provided in this SEIS do not change analytical conclusions from either the 2018 Proposed RMPA/Final EIS or the 2015 Proposed LUPA/Final EIS. See summary of environmental consequences from 2018 in Section ES.4 of the Proposed RMPA/Final EIS and from 2015 in Section 2.13 of the Proposed LUPA/Final EIS.

# Chapter I. Purpose and Need for Action

## I.1 INTRODUCTION

Greater Sage-Grouse is a state-managed species that depends on sagebrush steppe ecosystems. These ecosystems are managed in partnership across its range by federal, state, and local authorities. State agencies responsible for fish and wildlife management possess broad responsibility for protecting and managing fish, wildlife, and plants within their borders, except where preempted by federal law. Similarly, the BLM has broad responsibilities to manage public lands and resources for the public's benefit. Approximately half of Greater Sage-Grouse habitat is managed by the BLM and Forest Service.

State agencies are at the forefront of efforts to maintain healthy fish and wildlife populations and to conserve at-risk species. State-led efforts to conserve the species and its habitat date back to the 1950s. For the past two decades, state wildlife agencies, federal agencies, and many others in the range of the species have been collaborating to conserve Greater Sage-Grouse and its habitats.

In 2010, USFWS determined that listing the Greater Sage-Grouse under the Endangered Species Act of 1973 (ESA) was “warranted, but precluded” by other priorities. In its determination, the USFWS found there to be inadequate regulatory mechanisms to protect Greater Sage-Grouse and conserve its habitat. In response, the BLM, in coordination with the Forest Service, USFWS, and state agencies, developed a management strategy that included targeted Greater Sage-Grouse management actions. In 2015, the BLM and Forest Service adopted land use plan amendments and revisions to 98 BLM and Forest Service land use plans across ten western states. These planning decisions addressed, in part, threats to the Greater Sage-Grouse and its habitat. The amended land use plans govern the management of 67 million acres of Greater Sage-Grouse habitat on federal lands.

In September 2015, the USFWS determined that the Greater Sage-Grouse did not warrant listing under the ESA. The USFWS based its 2015 determination, in part, on the regulatory certainty provided by the conservation commitments and management actions in the federal planning decisions, as well as on other private, state, and federal conservation efforts.

The 2015 plans recommended that sagebrush focal areas (SFAs) be proposed for withdrawal from location and entry under the Mining Law of 1872. While the BLM later proposed to withdraw these areas, it canceled that proposed withdrawal on October 11, 2017. The BLM determined that the proposal to withdraw these areas was unreasonable in light of the data that showed that mining affected less than 0.1 percent of Greater Sage-Grouse across its occupied range.

On March 29, 2017, the Secretary of the Interior issued Secretary's Order 3349, *American Energy Independence*. It ordered DOI agencies to reexamine practices “to better balance conservation strategies and policies with the equally legitimate need of creating jobs for hard-working American families.”

On June 7, 2017, the Secretary issued Secretary's Order 3353 with a purpose of enhancing cooperation among eleven western states and the BLM in managing and conserving Greater Sage-Grouse. Secretary's Order 3353 directed an Interior Review Team, consisting of the BLM, the US Fish and Wildlife Service (USFWS), and US Geological Survey (USGS), to coordinate with the Sage-Grouse Task Force. They also

were directed to review the 2015 Greater Sage-Grouse plans and associated policies to identify provisions that will maintain healthy Sage Grouse populations but may require modification, including opportunities to enhance consistency with individual state plans and better balance the BLM's multiple-use mission, as directed by Secretary's Order 3349.

On August 4, 2017, the Interior Review Team submitted its Report in Response to Secretary's Order 3353. The report the team recommended modifying the Greater Sage-Grouse plans and associated policies to better align with the individual state plans. On August 4, 2017, the Secretary issued a memo to the Deputy Secretary directing the BLM to implement the recommendations found in the report.

In the *Federal Register* of October 11, 2017, the BLM published the Notice of Intent to Amend Land Use Plans Regarding Greater Sage-Grouse Conservation and Prepare Associated Environment Impact Statements or Environmental Assessments.

The BLM continues to prioritize efforts to conserve Greater Sage-Grouse and restore sagebrush habitat. From Fiscal Year 2017 to Fiscal Year 2020, the BLM has treated on average over 550,000 acres of Greater Sage-Grouse habitat every year. In Fiscal Year 2020, the BLM treated approximately 584,000 acres. These 2020 treatments included approximately 162,000 acres of conifer removal; 71,000 acres of fuel breaks; 203,000 acres with invasive species treatments; 42,000 acres of habitat protection; and restored habitat on 106,000 acres of uplands and over 700 acres of riparian habitat. In 2020, Idaho conducted habitat treatments on 136,000 acres.

The BLM is committed to working directly with local communities on sagebrush conservation efforts and to emulate the successes demonstrated by the Natural Resources Conservation Service (NRCS) through the Sage-Grouse Initiative on private lands. These efforts include:

- an agreement with the Intermountain West Joint Venture to work with local cattlemen associations to improve sagebrush rangeland conditions through actions such as controlling invasive species, improving mesic areas, and removing invasive conifers;
- a Memorandum of Understanding between the BLM, NRCS, and the Forest Service resulting in development of a map that identifies areas where the agencies have ongoing restoration projects and opportunities for additional collaboration across land ownerships and associated landscapes;
- promoting a locally led collaborative conservation, the BLM, the USFWS, and the Geological Survey are collaborating with the Western Association of Fish and Wildlife Agencies as they lead the development and implementation of the Sagebrush Conservation Strategy;
- working with livestock permittees and stakeholders on "targeted grazing" to utilize grazing as a tool to create and maintain fuel breaks to manage the threats of wildfire and invasive species in or next to Greater Sage-Grouse habitats; and,
- working to develop "outcome-based grazing" to provide greater flexibility for livestock permittees and land managers to meet habitat objectives as conditions on-the-ground change.

During the public scoping period for the 2019 planning process, the BLM sought public comments on whether all, some, or none of the 2015 Greater Sage-Grouse plans should be amended, what issues should be considered, and if plans should be completed at the state level rather than at the national level. The BLM specifically sought public comment on SFA designations, mitigation standards, lek buffers, disturbance and density caps, habitat boundaries to reflect new information, and reversing adaptive

management responses when the BLM determines that resource conditions no longer warrant those responses. In addition, the BLM recognized that the Greater Sage-Grouse is a state-managed species that depends on sagebrush steppe habitats managed in partnership by federal, state, and local authorities. Input from governors would weigh heavily when the BLM considers what management changes should be made and when ensuring consistency with the BLM's multiple-use mission.

After reviewing comments received during the public scoping period, the BLM proposed the Draft EIS on May 4, 2018 and ultimately issued the Final EIS on December 6, 2018. Through the notice and comment process, the BLM was able to accomplish the objectives set forth in SO 3353 and remedy inconsistencies that existed in the 2015 LUPAs. Below is a summary of some of the issues raised during the Draft EIS and addressed during the Final EIS.

Further, in the 2018 DEIS the BLM again requested public comments on a number of issues, including the BLM's approach to compensatory mitigation. In response to these comments and information supplied by the states about how to align with their compensatory mitigation laws and policies, the 2018 Final EIS clarified the BLM's approach to compensatory mitigation in its Proposed Plan Amendment. Through the Draft Supplemental EIS (DSEIS), the BLM sought additional comment from the public on compensatory mitigation.

This Final Supplemental EIS (FSEIS) also addresses and clarifies the BLM's reliance on scientific information, including how the BLM addresses the recommendation and objectives in the National Technical Team [NTT] and Conservation Objectives Team [COT] reports. The BLM, the USFWS, states and other federal agency partners prepared the NTT (2011) and the COT (2013) reports to identify rangewide Greater Sage-Grouse conservation objectives and conservation measures that would: inform the USFWS 2015 decision under the Endangered Species Act and inform partners; and provide guidance for the BLM to consider through land use planning, which the BLM did in 2015 and 2019, and again in this FSEIS. The NTT and COT reports constituted starting points for the BLM to consider in at least one alternative to be considered through the NEPA and land use planning process. They are not compendiums that, standing alone, represent best available science. The NTT and COT reports do not address, or even attempt to address, how the implementation of their Greater Sage-Grouse conservation measures would affect other uses of the public lands—such as recreation, fluid mineral development, mining, and livestock grazing. Moreover, the NTT and COT reports do not quantify, or even attempt to quantify, the Greater Sage-Grouse conservation benefits of each respective conservation measure.

At the time that the NTT and COT reports were being developed, the BLM, USFWS, and state agencies had not completely developed or established the robust programs to conserve Greater Sage-Grouse that exist today.

In 2015, the BLM developed an action alternative around the NTT report. In the 2018 Final EIS, the BLM incorporated this analysis by reference. The BLM also coordinated with USFWS during the process culminating in the 2019 RODs to make sure that the conservation measures from the NTT and COT informed the management alignment alternative (**Appendix S-1**).

Idaho BLM, the Fish and Wildlife Service, and the Idaho Governor's Office of Species Conservation used the COT report as the benchmark when developing the Management Alignment Alternative. USFWS was a cooperating agency that attended all meetings. They verified that the changes developed to align

BLM management with the State plans were consistent with conservation measures in the COT Report (**Appendix S-1**). Including the USFWS as a cooperating agency during the 2019 planning process ensured that BLM was aware of the same materials and newest science that the USFWS uses and recommends for Greater Sage-Grouse management.

Prior to the release of the 2018 Draft EIS, the USFWS shared a draft comment memo with the Idaho BLM that supported the recommendations in the Idaho management alignment alternative. Specifically, USFWS concluded that recommendations provided by the State of Idaho incorporated relevant new science that would ensure regulatory mechanisms for BLM-administered lands would continue to be adequate to meet the COT Objectives.

This FSEIS also clarifies how the BLM considered comments, including those of other federal agencies (including EPA) and experts, when developing its 2019 planning decisions. For example, when the BLM published its 2018 DEISs, the BLM received comments about potential reductions to lek buffers. Under the Management Alignment Alternative in the 2018 DEIS, BLM Idaho considered removing GHMA lek buffers and reducing IHMA lek buffers. But in response to public comments, BLM Idaho changed its approach in the 2018 Final EIS. Under the Management Alignment Alternative in the 2018 Final EIS, BLM Idaho considered maintaining the GHMA buffers rather than eliminating them and maintaining larger IHMA buffers than those considered in the DEIS's Management Alignment Alternative (see **Section 4.5.1, Modifying Lek Buffers, in Chapter 4**).

In 2018, the Environmental Protection Agency (EPA) provided comments on the Draft RMPAs/EISs. Specifically, they provided six comments on the Idaho Draft RMPA/EIS, seven discrete comments on the Nevada/Northeast California Draft RMPA/EIS, six on the Utah Draft RMPA/EIS, three on the Wyoming Draft RMPA/EIS, six on the Oregon Draft RMPA/EIS, and five on the Colorado Draft RMPA/EIS. EPA's comments include suggestions and questions regarding lek buffers, recent science, mitigation, adaptive management, and fluid minerals. BLM responded to each of EPA's comments and made corrections and/or changes in the 2018 Final EISs. The complete EPA comment analysis can be found in the administrative record. This FSEIS also clarifies how the BLM considered comments, including those of other federal agencies and experts, when developing its 2019 planning decisions.

In Idaho, the EPA contacted the BLM by telephone before submitting their comments on the 2018 Final EIS. EPA was interested in understanding how the alignment alternative was developed and wanted to let us know that they were appreciative that we considered their Draft EIS comments about lek buffers. During the call, BLM explained the process used to develop the Management Alignment Alternative. For example, we discussed the multidisciplinary approach where stakeholders from the Governor's Sage - grouse Taskforce worked closely with the BLM, USFWS, and other federal partners to create an alternative that met the needs of Greater Sage-Grouse. The EPA followed up with a December 20, 2018 comment letter on the Final EIS.

EPA's December 20, 2018 Final EIS comment letter acknowledged the changes that the BLM made in response to their Draft EIS comments. Specifically, they acknowledged that the BLM considered their Draft EIS comments regarding buffers by increasing the size in IHMA and adding them back in GHMA in the Final EIS. The EPA also acknowledged that the BLM considered their recommendation to "describe how data and science informed the buffer decisions." EPA wrote:



*In our August 2018 comments on the Draft EIS, we recommended that the Final EIS include a description of how the BLM evaluated and interpreted the data and science relevant to the decision to reduce lek buffers within Important Habitat Management Areas and to remove buffers and mitigation requirements within General Habitat Management Areas. We appreciate that, for the FEIS, lek buffers have been increased relative to the DEIS, and mitigation requirements for General Habitat Management Areas are now included. Larger buffers and broader application of mitigation requirements will result in improved protection for Greater Sage-Grouse.*

*Regarding our recommendation to describe how data and science relevant to the decision was evaluated and interpreted, we appreciate this addition in the FEIS's Idaho-Specific Comment Responses:... We appreciate your consideration of our comments.*

Ultimately, BLM Idaho's 2019 ROD and ARMPA did not reduce lek buffers in PHMA, leaving them unchanged from those in the 2015 ARMPA. This decision was made by the BLM after close coordination with the Governor's Office, the Governor's Sage-Grouse Task Force members, and after reviewing applicable public comments.

BLM Idaho, however, chose to reduce lek buffers in IHMA and GHMA to better align buffers distances with the Governor's three-tier habitat approach where PHMA has the most restrictive buffers (same as 2015 ARMPA), IHMA has slightly reduced buffer distances, and GHMA has the smallest buffer distances. This approach encourages development outside of the best habitat and into lesser quality or non-habitat. All buffer reductions were within the ranges reported in the scientific literature (USGS Open File Report 2014-1239).

## **I.2 PURPOSE AND NEED FOR ACTION**

In the Federal Land Policy and Management Act (FLPMA), Congress provided the BLM with discretion and authority to manage public lands for multiple use and sustained yield and declared it the policy of the United States to, consistent with the laws governing the administration of the public lands, coordinate planning activities with the land use planning and management programs of other federal, state, and local governments. Further, FLPMA specifically provides that it neither enlarges nor diminishes the authority of the states in managing fish and wildlife. As the sovereign entities with the lead role in managing game species, including Greater Sage-Grouse, states play a critical role in conserving the Greater Sage-Grouse and its habitat.

In the 2019 Planning effort, the BLM modified its approach to managing Greater Sage-Grouse habitat in land use plans by (1) enhancing cooperation and coordination with the State of Idaho, (2) aligning with DOI and BLM policies issued since 2015, and (3) incorporating appropriate management flexibility and adaptation to better align with Idaho's conservation plan. The BLM achieved these goals while maintaining the majority of Greater Sage-Grouse protections it incorporated into its land use plans in 2015. By implementing these land use plan conservation measures and continuing to exercise its discretion to approve future project proposals under appropriate terms and conditions or deny them where appropriate, the BLM can adequately protect Greater Sage-Grouse and its habitat while meeting its general obligation under FLPMA to manage public lands under principles of multiple use and sustained yield.

On October 16, 2019, the US District Court for the District of Idaho issued an order granting a motion for a preliminary injunction filed by Plaintiffs Western Watersheds Project, WildEarth Guardians, Center for Biological Diversity, and Prairie Hills Audubon Society. The court found that the Plaintiffs were likely to succeed on the merits of their claims that the BLM violated the National Environmental Policy Act (NEPA) when adopting the 2019 Greater Sage-Grouse plans.

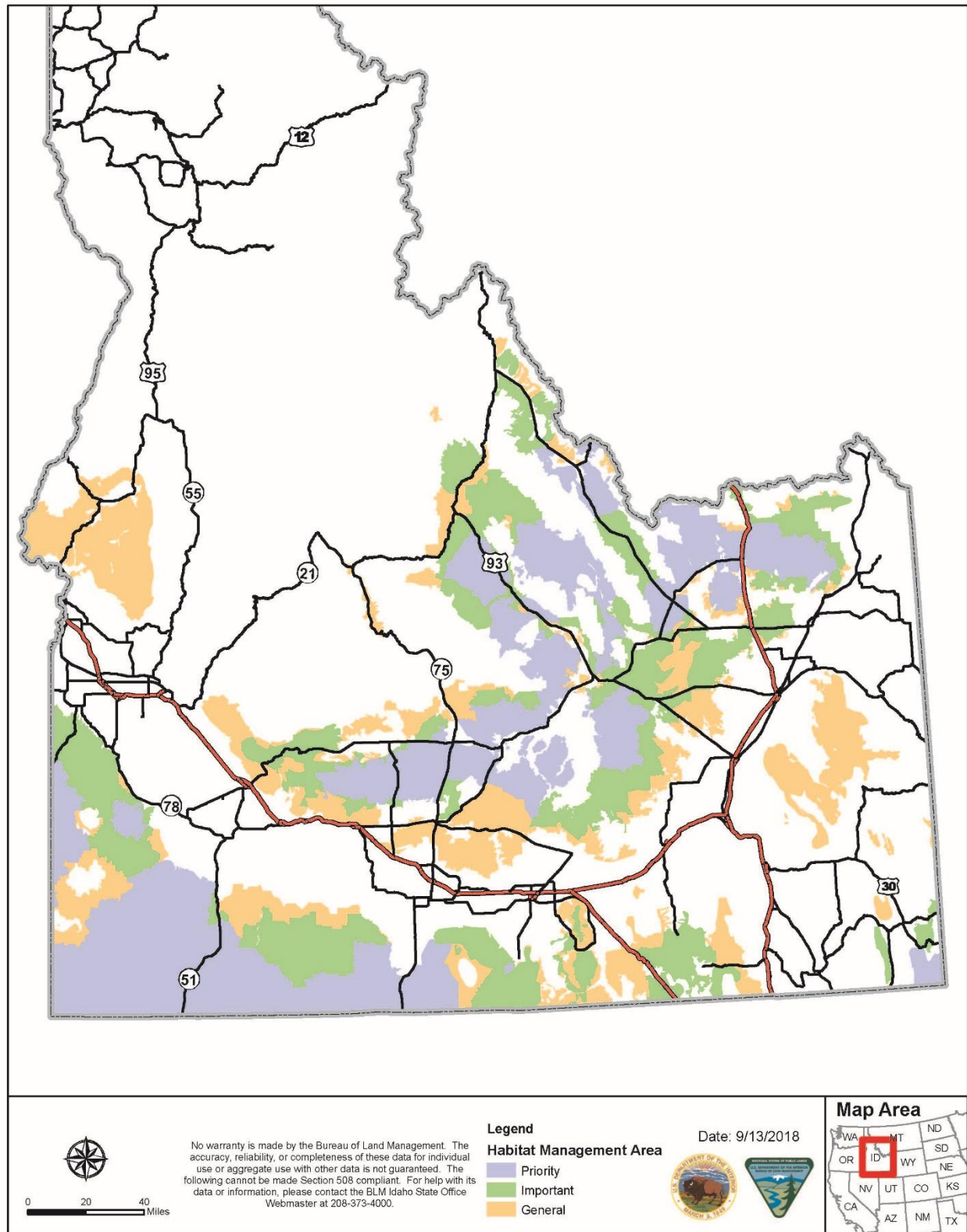
The BLM has prepared this FSEIS to review its previous NEPA analysis, clarify and augment it where necessary, and provide the public with additional opportunities to review and comment. The BLM's FSEIS will help the BLM determine whether its 2015 and 2019 land use planning and NEPA processes have sufficiently addressed Greater Sage-Grouse habitat conservation or whether the BLM should initiate a new land use planning process to consider additional alternatives or new information. To inform this decision that the BLM will make, it has prepared this FSEIS to address four specific issues: the range of alternatives, need to take a hard look at environmental impacts, cumulative effects analysis, and the BLM's approach to compensatory mitigation.

### **I.3 PLANNING AREA AND CURRENT MANAGEMENT**

**Figure I-1** shows the FSEIS planning area. See **Chapter 3**, Affected Environment, for a description of the planning area and current management.

Priority Habitat Management Areas (PHMA) are areas that have been identified as having the highest conservation value to maintaining sustainable Greater Sage-Grouse populations. They include areas meeting life cycle requirements, such as breeding and late brood-rearing habitats, and winter concentration areas, and are based on best available science. PHMA include a variety of important seasonal habitats and movement corridors that are spread across geographically diverse and naturally fragmented landscapes. Greater Sage-Grouse use multiple areas to meet seasonal habitat needs throughout the year and the resulting mosaic of habitats—winter, breeding, nesting, early brood-rearing, late brood-rearing, transitional, and movement corridor habitats—can encompass large areas. Broad habitat maps increase the likelihood that all seasonal habitats (including transition and movement corridors) are included. While areas of non-habitat, such as canyons, water bodies, and human disturbances, in and of themselves may not provide direct habitat value for Greater Sage-Grouse, these areas may be crossed by birds when moving between seasonal habitats; therefore, these habitat management areas are not strictly about managing habitat but are about providing those large landscapes that are necessary to meet the life-stage requirements for Greater Sage-Grouse. These will include areas that do not meet the habitat requirements described in the Seasonal Habitat Objectives table in the 2015 Final EIS. These areas meet Greater Sage-Grouse habitat needs by maintaining large, contiguous expanses of relatively intact sagebrush vegetation community.

**Figure I-1**  
**Planning Area Consists of Designated Greater Sage-Grouse Habitat in Idaho**



## **I.4 2019 ISSUES DEVELOPMENT**

### **I.4.1 Issues and Related Resource Topics Identified Through Scoping as Part of the 2019 Planning Process**

When deciding which issues to address related to the purpose and need, the BLM considers points of disagreement, debate, or dispute regarding an anticipated outcome from a proposed action. Issues are based on anticipated environmental effects; as such, issues can help shape the proposal and alternatives. The BLM used internal, agency, and public scoping to identify issues to consider in the environmental analysis. A summary of the scoping process as part of the 2019 planning process is presented in a report titled Potential Amendments to Land Use Plans Regarding Greater Sage-Grouse Conservation Scoping Report (<https://goo.gl/FopNgW>).

When determining whether to retain an issue for more detailed analysis in the 2018 RMPA/EIS, the interdisciplinary team considered, among other things, the following:

- The environmental impacts associated with the issue and the threats to species and habitat associated with the issue are central to development of a Greater Sage-Grouse management plan or of critical importance.
- A detailed analysis of environmental impacts related to the issue is necessary to make a reasoned choice between alternatives.
- The environmental impacts associated with the issue are a significant point of contention among the public or other agencies.
- Whether there are potentially significant impacts on resources associated with the issue.

Ultimately, it was important for decision-makers and the public to understand the impacts that each of the alternatives would have on specific resources; therefore, the BLM used the resource topics that were tied to relevant issues as a heading to indicate which resources would be affected by a management change. Resource topics helped organize the discussions of the affected environment (**Chapter 3**) and environmental consequences (**Chapter 4**). Issues and resource topics were tracked in parallel structure throughout the affected environment and environmental consequences for easy reference.

The sections below lay out how issues raised during scoping for the 2019 planning process, as well as related resource topics, were considered in the 2018 EIS. Generally, they fell into the following categories:

- Issues and related resource topics retained for further consideration in the 2018 RMPA/EIS—These were issues raised during scoping that were retained in the 2018 RMPA/EIS and for which alternatives were developed to address the issues. In some cases, the resolution in the alternatives were previously analyzed in the 2015 Final EIS; in other cases, additional analysis is needed in the 2018 RMPA/EIS. Because the issues were analyzed under resource topics in 2015, the resource topics corresponding with those retained for further analysis were also considered in the 2018 RMPA/EIS. Just like issues, they may have been analyzed in the 2015 Final EIS for those decisions included in the 2018 RMPA/EIS.
- Clarification of decisions in the 2015 Approved Resource Management Plan Amendment (ARMPA)—These are decisions or frameworks in the 2015 ARMPA that require clarification as

to their application or implementation. No new analysis was required, as the effects behind the decisions were analyzed in the 2015 Final EIS.

- Issues and resource topics not carried forward for additional consideration or analysis—These are issues brought up during scoping that were not carried forward in the 2018 RMPA/EIS. While some of these issues were considered in the 2018 RMPA/EIS, they did not require additional analysis because they were analyzed in the 2015 Final EIS. Others were not carried forward in the 2018 RMPA/EIS because they did not further the purpose of aligning with the state’s conservation plan. Similar to issues, there were resource topics that were not retained for further analysis in the 2018 RMPA/EIS. This is because either they were not affected by the changes proposed in Chapter 2 of the 2018 RMPA/EIS or because the effect was analyzed in the 2015 Final EIS.

### ***Issues and Related Resource Topics Retained for Further Consideration in this FSEIS***

**Table I-1** summarizes those issues below that were identified through scoping and that have been retained for consideration and additional discussion in **Chapters 3** and **4**.

The issues identified in **Table I-1** are significant because they address concerns raised by the Idaho Governor and are specific to aligning the 2015 ARMPA/ROD with the Governor of Idaho’s Plan. **Table I-1** presents the issues as written by the Governor.

This amendment addresses the issues in **Table I-1** and provides focused changes to BLM management direction from the 2015 ROD/ARMPA to align with the Governor’s Plan, as directed in SO 3353. The characterization of the affected environment in **Chapter 3** and the analysis in **Chapter 4** focus only on the resource topics related to the issues in **Table I-1**.

**Table I-1**  
**Issues and Related Resource Topics**

<b>Issue Number</b>	<b>Issues</b>	<b>Resource Topics Related to the Issues</b>
<b>1</b>	<b>Modifying Habitat Boundary Designations</b> <ul style="list-style-type: none"> <li>• Integration of flexibility into the plans to be able to adjust habitat management area boundaries without the need for a plan amendment</li> </ul>	<ul style="list-style-type: none"> <li>• Greater Sage-Grouse</li> </ul>
<b>2</b>	<b>Sagebrush Focal Area Designations</b> <ul style="list-style-type: none"> <li>• Sagebrush Focal Areas (SFA) duplicate many protections that are already in place through the designation of priority habitat management areas (PHMA). The SFA designation focuses on de minimis land use activities in Idaho, and does nothing to address the primary threats of wildfire and invasive species, nor do SFAs provide an appreciable benefit to Greater Sage-Grouse. SFAs also complicate the state’s adaptive management process and negatively affect the economic viability of the state through land use prohibitions (i.e., locatable mineral withdrawal recommendation).</li> </ul>	<ul style="list-style-type: none"> <li>• Mineral Resources</li> <li>• Greater Sage-Grouse</li> <li>• Livestock Grazing</li> <li>• Wild Horse &amp; Burro</li> </ul>
<b>3</b>	<b>Adjusting Disturbance and Density Caps</b> <ul style="list-style-type: none"> <li>• The project scale disturbance cap is overly complex and does not provide the flexibility to cluster multiple projects in one area of a Biologically Significant Unit; thus, penalizing project collocation.</li> </ul>	<ul style="list-style-type: none"> <li>• Greater Sage-Grouse</li> <li>• Mineral Resources</li> <li>• Lands and Realty</li> <li>• Socioeconomics</li> </ul>

Issue Number	Issues	Resource Topics Related to the Issues
4	<b>Modifying Lek Buffers</b> <ul style="list-style-type: none"> <li>The application of uniform USGS lek buffers dilutes the efficacy of Idaho's unique, three-tiered habitat approach and does not provide an incentive to move development out of Greater Sage-Grouse priority habitat. Flexibility in lek buffer application should be based on site-specific information, habitat type, habitat quality, and type of development, not a one-size-fits-all approach.</li> </ul>	<ul style="list-style-type: none"> <li>Greater Sage-Grouse</li> <li>Mineral Resources</li> <li>Lands and Realty</li> <li>Socioeconomics</li> <li>Livestock Grazing</li> <li>Recreation</li> </ul>
5	<b>Including Waivers, Exceptions, and Modifications on NSO Stipulations</b> <ul style="list-style-type: none"> <li>The no surface occupancy (NSO) requirement in PHMA should be consistent with the Governor's plan to include the flexibility of an exception, waiver, or modification process.</li> </ul>	<ul style="list-style-type: none"> <li>Greater Sage-Grouse</li> <li>Fluid Minerals</li> </ul>
6	<b>Changing Requirements for Design Features</b> <ul style="list-style-type: none"> <li>The Required Design Features (RDFs) appendix is redundant and unclear, and does not provide managers the flexibility to apply the appropriate individual RDFs to address site-specific situations.</li> </ul>	<ul style="list-style-type: none"> <li>Greater Sage-Grouse</li> <li>Mineral Resources</li> <li>Lands and Realty</li> <li>Socioeconomics</li> <li>Livestock Grazing</li> </ul>
7	<b>Modifying Habitat Objectives</b> <ul style="list-style-type: none"> <li>The Habitat Objectives table in the Idaho 2015 ROD/ARMPA is being interpreted and applied as standards and not objectives on the landscape. Clarification on its applicability and use are needed for each habitat indicator.</li> </ul>	<ul style="list-style-type: none"> <li>Greater Sage-Grouse</li> </ul>
8	<b>Modifying Decisions for Livestock Grazing Commensurate with the Threat Posed</b> <ul style="list-style-type: none"> <li>Improper livestock grazing is a secondary threat in Idaho that should be managed using existing regulations. The USFWS's 2010 Warranted but Precluded determination recognized rangeland health standards as an adequate regulatory mechanism. The 2015 ROD/ARMPA imposes uniform and unnecessary grazing standards and does not incentivize proper livestock grazing (e.g., the grazing permit renewal thresholds requirement for allotments in SFAs is unnecessary).</li> </ul>	<ul style="list-style-type: none"> <li>Livestock Grazing</li> <li>Greater Sage-Grouse</li> </ul>
9	<b>Modifying the Mitigation Strategy to Align with the State Mitigation Strategy, including Standard for No Net Loss</b> <ul style="list-style-type: none"> <li>The net gain mitigation standard is an elusive standard and creates no certainty to project proponents. The state can find no clear authority for the federal agencies to require a net conservation gain standard. Deference should be given to the state's mitigation framework.</li> </ul>	<ul style="list-style-type: none"> <li>Greater Sage-Grouse</li> </ul>

### **Issues and Resource Topics Not Carried Forward for Additional Analysis**

#### *Issues and Related Resource Topics Not Carried Forward for Additional Analysis*

The following issues were raised during scoping for the 2018 Draft EIS, were not carried forward in that effort, and are not carried forward in this FSEIS for the same reasons. For example, population-based management is not carried forward for detailed analysis because the BLM does not manage species populations; that authority falls under the jurisdiction of the Idaho Department of Fish and Game.

Because the following issues were analyzed in the 2015 Final EIS, and no significant new information has emerged, they do not require additional analysis in this EIS. These issues were analyzed under most resource topics in the 2015 Final EIS. The related resource topics are dismissed from additional analysis. The types of impacts on these resources are described in the range of alternatives in the 2015 Final EIS. The impacts of implementing the alternatives in this FSEIS are within the range of alternatives previously analyzed.

- Restrictions on ROWs and infrastructure
- Wind energy development in PHMA
- ROW avoidance in PHMA and GHMA
- Retention of lands as identified as PHMA or GHMA in federal ownership
- Prioritization of fluid mineral leases outside of PHMA and GHMA
- Numerical noise limitations within PHMA
- Vegetation treatments and wildfire response
- Habitat assessment framework

The following issues were evaluated as part of the 2015 Final EIS. For the same reasons they were dismissed in the 2015 Final EIS, similarly they are not carried forward for detailed analysis in this EIS (see Section I.5.3, Planning Issues; Issues Not Addressed: Outside the Scope of the Planning Effort, pg. I-36, in the Final EIS):

- Hunting Greater Sage-Grouse
- Predator control
- Aircraft overflights in PHMA and GHMA
- No cattle grazing in Greater Sage-Grouse habitat

#### *Resource Topics Not Carried Forward for Additional Analysis*

The resource topics below are dismissed from detailed analysis because they have no potentially significant impacts from actions proposed in this FSEIS:

- Geology
- Paleontological resources
- Indian Trust resources
- Noise

### **I.5 ITEMS TO BE CLARIFIED IN THIS FSEIS**

The items considered in this FSEIS are related to the analysis in the 2018 Final EIS. These items are:

- clarifying the range of alternatives (including how the BLM considered the full range of the 2015 alternatives in the 2019 planning process),
- taking a hard look and using the best available science (including clarified effects analysis, how the 2015 and 2019 FEISs addressed the NTT and COT recommendations and conservation measures) (**Appendix S-1**),

- clarifying that the cumulative effects analysis was done at the range wide level and organized by WAFWA Management Zone (MZs) Updated language also highlights why WAFWA MZs were used,
- an updated Reasonably Foreseeable Future Actions.

## **I.6 RELATIONSHIP TO OTHER POLICIES, PLANS, AND PROGRAMS**

The BLM recognizes the importance of state and local plans. It will work to be consistent with or complementary to the management actions in these plans whenever possible.

### **I.6.1 State Plans**

State plans considered during this effort are the following:

- Idaho Governor's Executive Order No. 2015-04 (Adopting Idaho's Sage-Grouse Management Plan)
- Idaho State Board of Land Commissioners Greater Sage-Grouse Conservation Plan

## **I.7 CHANGES BETWEEN DRAFT AND FINAL SEIS**

Based on comments received on the DSEIS, the BLM has updated the list of past, present, and reasonably foreseeable projects considered for cumulative impacts in **Appendix S-2**. Responses to substantive public comments received on the DSEIS are included in **Appendix S-3**.



# Chapter 2. Alternatives

## 2.1 INTRODUCTION

This chapter describes the eight alternatives considered during the 2019 planning processes. The 2018 Draft RMPA/Draft EIS and Proposed RMPA/Final EIS analyzed in detail a No-Action Alternative and one action alternative, the Management Alignment Alternative, while incorporating by reference the full range of alternatives evaluated in detail by the BLM in its 2015 EISs. The 2019 Record of Decision also explains how the BLM considered the alternatives evaluated in the BLM's 2015 and 2018 EISs. This FSEIS likewise considers this full range of reasonable alternatives, while adding a greater level of detail about each alternative and giving the public an additional opportunity to review and comment on these eight alternatives. The full range of alternatives considered in the 2018 Final EIS is both summarized and provided in detail in the three tables in **Section 2.6**. NEPA's implementing regulations require materials to be incorporated by reference when the effect will be to cut down on bulk without impeding agency and public review of the action (40 CFR 1502. 21).

## 2.2 2018 PLAN AMENDMENT/2019 ROD DESCRIPTION

In 2019 BLM Idaho amended the existing Greater Sage-Grouse management direction from the following Idaho plans, as directed by Secretary's Order 3353; 2018 Proposed RMPA/Final EIS and 2019 Record of Decision promoted alignment between the BLM's management of Greater Sage-Grouse habitat and the State of Idaho Greater Sage-Grouse Plan.

- Bennett Hills/Timmerman Hills Management Framework Plan (BLM 1980)
- Big Desert Management Framework Plan (BLM 1981)
- Big Lost Management Framework Plan (BLM 1983)
- Bruneau Management Framework Plan (BLM 1983)
- Cascade RMP (BLM 1988)
- Cassia RMP (BLM 1985)
- Challis RMP (BLM 1999)
- Craters of the Moon National Monument RMP (BLM 2006)
- Four Rivers RMP Revision
- Jarbidge (2015)
- Jarbidge RMP (BLM 1987)
- Kuna Management Framework Plan (BLM 1983)
- Lemhi RMP (BLM 1987)
- Little Lost-Birch Creek Management Framework Plan (BLM 1981)
- Magic Management Framework Plan (BLM 1975)
- Medicine Lodge RMP (BLM 1985)
- Monument RMP (BLM 1985)
- Owyhee RMP (BLM 1999)
- Pocatello RMP (BLM 2012)

- Snake River Birds of Prey National Conservation Area RMP (BLM 2008)
- Sun Valley Management Framework Plan (BLM 1981)
- Twin Falls Management Framework Plan (BLM 1982)
- Upper Snake RMP Revision

### 2.3 SUMMARY OF 2019 ALLOCATIONS

The Management Alignment Alternative and the Proposed Plan retained the decisions in the 2015 Record of Decision (ROD)/Amended Resource Management Plan Amendment (ARMPA), unless they were specifically identified for change to in the Management Alignment Alternative.

**Table 2-1** displays the land use allocations for the No-Action Alternative, the Management Alignment Alternative, and the Proposed Plan Amendment; these allocation-level decisions are the same for all three alternatives. The changes between the Management Alignment Alternative and the Proposed Plan Amendment are more precise, as detailed in the side-by-side comparison in the 2018 Final EIS (Table 2.3).

**Table 2-1**  
**Land Use Allocations under the No-Action Alternative, the Management Alignment Alternative, and the Proposed Plan Amendment**

Resource	PHMA	IHMA	GHMA
Land tenure	Retain	Retain	Retain
Wind and solar	Exclusion	Avoidance	Open
Rights-of-way	Avoidance	Avoidance	Open
Oil and gas and geothermal	Open with major stipulations	Open with major stipulations	Open with standard stipulations
Nonenergy leasables	Closed	Open	Open
Salable minerals	Closed with limited exceptions	Open	Open
Locatable minerals*	Open	Open	Open
Travel management	Limited	Limited	Limited
Livestock grazing	Open	Open	Open

\*Areas are open for locatable mineral entry unless they have been withdrawn under a separate order.

### 2.4 2019 PLANNING PROCESS

The 2019 planning process amended the plans identified in **Section 2.2** by replacing the specific objectives, management decisions, and appendices from the 2015 ARMPA with the language below. All portions of the existing management plans, as amended by the 2015 ARMPA, that were not specifically changed remained in effect. The plan amendment was derived by combining the Management Alignment Alternative, with the further clarifications and modifications received from the Governor's Greater Sage-Grouse Task Force members and from applicable public comments. A detailed comparison of the alternatives considered during this planning process and the Proposed Plan Amendment is found in the side-by-side comparison tables below in **Section 2.3**.

The Management Alignment Alternative in the 2018 Draft RMPA/EIS included a proposed management action for compensatory mitigation based upon the mitigation framework BLM incorporated into its plans in 2015. However, following extensive review of FLPMA, including existing regulations, orders,

policies, and guidance, the BLM has concluded that FLPMA does not explicitly mandate or authorize the BLM to require public land users to implement compensatory mitigation as a condition of obtaining authorization for the use of the public lands (IM 2018-093, *Compensatory Mitigation*, July 24, 2018). In addition, the Draft 2018 RMPA/EIS analyzed a change to the net conservation gain standard for compensatory mitigation actions required to offset residual impacts to Greater Sage-Grouse on BLM-administered lands.

To be consistent with the law, the BLM clarified its role in applying compensatory mitigation in IM 2018-093. To align the 2019 planning effort with the BLM's legal authority regarding compensatory mitigation, the 2019 Plan Amendment clarified that the BLM would consider compensatory mitigation only as a component of compliance with a state mitigation plan, program, or authority, or when offered voluntarily by a project proponent. The 2019 Plan Amendment eliminated the net conservation gain standard for compensatory mitigation and clarified that the BLM would continue to require appropriate avoidance and mitigation actions to adequately conserve Greater Sage-Grouse and its habitat, and would pursue no net loss of habitat as a broader planning goal and objective in alignment with state management plans.

The BLM committed to cooperating with the State of Idaho to analyze applicant-proffered or state-imposed compensatory mitigation to offset residual impacts. BLM could authorize such actions consistent with NEPA analysis and the governing RMP.

### ***Habitat Management Area Flexibility***

The boundaries of the habitat designations have been adjusted to correct administrative mapping errors that occurred when PHMA was designated in 2015. Habitat management area boundary changes also included removing some areas of non-habitat that were added to PHMA by the 2015 ROD/ARMPA as part of the SFA designations. Additionally, in the West Owyhee Conservation Area, the circle of 60,706 acres of PHMA (Brown's Creek Area) that is surrounded by IHMA was re-designated as IHMA (See Map 1); 11,828 acres of non-Greater Sage-Grouse habitat managed as PHMA, in the Mountain Valleys Conservation Area, was changed to non-habitat (Donkey Hills Area of Critical Conservation Concern [ACEC] and mapping errors).

Management Decision (MD) SSS 6: The management area map and biologically significant unit (BSU) baseline map could be reevaluated, in conjunction with plan evaluation processes (i.e., approximately every 5 years). This reevaluation could indicate the need to adjust conservation area boundaries, PHMA, IHMA, or GHMA, or the habitat or population baselines. These adjustments could occur on completion of the appropriate analysis and process (e.g., plan maintenance in coordination with the teams identified in MD SSS 44) to review the allocation decisions based on the map. Results from the wildfire and invasive species assessments, such as identified focal or emphasis areas, would also be used to help inform mapping adjustments during this evaluation.

MD SSS 9: This decision was deleted.

New MD SSS 44: In collaboration with the Idaho Governor's Office of Species Conservation, Idaho Department of Fish and Game, US Fish and Wildlife Service, and potentially other state and federal agencies, the BLM would form two teams (a technical team and a policy team) through a memorandum of understanding. These teams would be responsible for reviewing proposed infrastructure

developments, exceptions, variances, adaptive management triggers and responses, habitat management area adjustments, and mitigation, as described in detail in Appendix K [of the 2018 Final EIS].

### ***Removing Sagebrush Focal Areas***

MD SSS 10: This decision was deleted.

MD MR 10: This decision was deleted.

MD WHB 3: Prioritize gathers and population growth suppression techniques in herd management areas in Greater Sage-Grouse habitat, unless removals are necessary in other areas to address higher priority environmental issues, including herd health impacts. Place higher priority on herd areas not allocated as herd management areas and occupied by wild horses and burros in PHMA.

MD WHB 4: In PHMA, assess and adjust appropriate management levels (AMLs) through the NEPA process within herd management areas when wild horses or burros are identified as a significant causal factor in not meeting land health standards, even if current AML is not being exceeded.

MD WHB 5: In PHMA, monitor the effects of wild horse and burro use in relation to Greater Sage-Grouse seasonal habitat objectives to help determine future management actions.

MD WHB 6: Develop or amend herd management area plans to incorporate Greater Sage-Grouse habitat objectives and management considerations for all herd management areas in Greater Sage-Grouse habitat, with emphasis placed on PHMA.

### ***Modifying Disturbance and Density Caps***

MD SSS 27: If the 3 percent anthropogenic disturbance cap is exceeded on lands (regardless of land ownership) in Greater Sage-Grouse PHMA (or IHMA in Idaho) in any given BSU, no further discrete anthropogenic disturbances (subject to applicable laws and regulations, such as the General Mining Law of 1872, as amended, and valid existing rights) would be permitted by BLM within Greater Sage-Grouse PHMA and IHMA in any given BSU. This would be in effect until the disturbance has been reduced to less than the cap, as measured according to Appendix E [of the 2018 Final EIS] for the intermediate scale.

For Idaho, the BSU (**Figure 2-2**) is defined as the currently mapped nesting and wintering habitat in PHMA and IHMA in a conservation area, inclusive of all ownerships. Anthropogenic disturbance excludes habitat disturbance from wildfire and fuels management and includes the following developments (see Appendix E [of the 2018 Final EIS] for further details):

- Oil and gas wells and development facilities
- Coal mines
- Wind towers
- Solar fields
- Geothermal development facilities
- Mining (active locatable, nonenergy leasable and salable developments)
- Roads

- Railroads
- Power lines
- Communication towers
- Other vertical structures
- Coal bed methane ponds
- Meteorological towers (e.g., wind energy testing)
- Nuclear energy facilities
- Airport facilities and infrastructure
- Military range facilities and infrastructure
- Hydroelectric plants
- Recreation areas facilities and infrastructure

This disturbance is measured by direct footprint or by the distance between the outermost lines on transmission lines (Leu et al. 2008).

MD SSS 29: Subject to valid existing rights, new anthropogenic disturbances in PHMA: Anthropogenic Disturbance Screening Criteria. In order to avoid surface-disturbing activities in PHMA, priority would be given to development of rights-of-way (ROWs), fluid minerals, and other mineral resources subject to applicable stipulations outside of PHMA. When authorizing development in PHMA, priority would be given to development in non-habitat areas first and then in the least suitable habitat for Greater Sage-Grouse. In addition to the PHMA and IHMA anthropogenic disturbance development criteria (MD SSS 30), the BLM would ensure an applicant has worked with the State of Idaho to submit a proposal that meets the following criteria:

- a. The population trend for the Greater Sage-Grouse in the associated conservation area is stable or increasing over a 3-year period and the population levels are not currently engaging the adaptive management triggers (this applies strictly to new authorizations; renewals and amendments of existing authorizations would not be subject to this criteria when it can be shown that long-term impacts from those renewals or amendments would be substantially the same as the existing development).
- b. The development with associated design features, avoidance, minimization, or mitigation actions would not result in a net loss of Greater Sage-Grouse key habitat or of the respective PHMA.
- c. The project, its design features, avoidance and minimization actions, and associated impacts would not result in a net loss of Greater Sage-Grouse key habitat or habitat fragmentation or other impacts causing a decline in the population of the species in the relevant conservation area.
- d. The development cannot be reasonably accomplished outside of the PHMA or can be either developed pursuant to a valid existing authorization or collocated within the footprint of existing infrastructure. Proposed actions would not increase the 2011 authorized footprint and associated impacts more than 50 percent, depending on industry practice.
- e. Development would adhere to the RDFs described in Appendix C [of the 2018 Final EIS].
- f. The project would not exceed the disturbance cap (MD SSS 27).

- g. Large-scale anthropogenic disturbances in PHMA would be reviewed by the technical and policy teams, as described in MD SSS 44. (See the glossary for definition of large-scale anthropogenic disturbances.)

***Modifying Lek Buffers***

MD SSS 35: In undertaking BLM management actions in PHMA, IHMA and GHMA, and consistent with valid and existing rights and applicable law in authorizing third-party actions, the BLM would apply the lek buffer-distances in accordance with Appendix B [of the 2018 Final EIS]. The buffers do not apply to vegetation treatments specifically designed to improve or protect Greater Sage-Grouse habitat; however, impacts on leks should be analyzed and those impacts should be minimized to the extent practicable.

***Including Exceptions to NSO Stipulations***

MD MR 1: Areas in PHMA and IHMA would be open to mineral leasing and development and geophysical exploration, subject to NSO with a limited exception (MD MR 3). GHMA would be open to mineral leasing and development and geophysical exploration, subject to Controlled Surface Used (CSU), which includes standard stipulations and BMPs as identified in Appendix C [of the 2018 Final EIS] (Required Design Features).

MD MR 2: In Idaho, parcels nominated for lease in PHMA, IHMA, or GHMA would be evaluated prior to lease offering to determine if development is feasible.

MD MR 3: PHMA and IHMA: No waivers or modifications to a fluid mineral lease NSO stipulation would be granted. The BLM Authorized Officer may grant an exception to a fluid mineral lease NSO stipulation only where the proposed action: (i) would not have direct, indirect, or cumulative effects on Greater Sage-Grouse or its habitat, or (ii) is proposed to be undertaken as an alternative to a similar action occurring on a nearby parcel or the State of Idaho recommends the project goes forward, based on its determination that the action would not result in a net loss to Greater Sage-Grouse habitat.

Exceptions based on the goal of achieving no net loss may only be considered: (a) in PHMA of mixed ownership where federal minerals underlie less than 50 percent of the total surface, or (b) in areas of the public lands where the proposed exception is an alternative to an action occurring on a nearby parcel subject to a valid federal fluid mineral lease existing as of the date of this Proposed Plan Amendment. Exceptions based on the no net loss goal must also include measures, such as enforceable institutional controls and buffers, sufficient to allow the BLM to conclude that such benefits would endure for the duration of the proposed action's impacts.

Any exceptions to this lease stipulation may be approved by the BLM Authorized Officer, only with the concurrence of the BLM State Director and in coordination with the technical and policy team. Approved exceptions would be made publicly available.

MD MR 8: Issue written orders of the authorized officer (43 CFR 3161.2) requiring reasonable protective measures consistent with the lease terms where necessary to avoid or minimize impacts on Greater Sage-Grouse populations or habitat.

**Changing Requirements for Design Features**

MD SSS 32: In PHMA and IHMA, incorporate RDFs, as described in Appendix C [of the 2018 Final EIS], in developing the project or proposal implementation, reauthorizations or new authorizations, as conditions of approval into any post-lease activities and as BMPs for locatable minerals activities, to the extent allowable by law, unless at least one of the following conditions could be demonstrated and documented in the NEPA analysis associated with the specific project:

- a. A specific RDF is not applicable to the site-specific conditions of the project or activity
- b. A proposed design feature or BMP is determined to provide equal or better protection for Greater Sage-Grouse or its habitat
- c. Analysis concludes that following a specific RDF would provide no more protection to Greater Sage-Grouse or its habitat than not following it, for the project being proposed

In GHMA, the RDFs are considered BMPs that should be considered and applied, unless the proponent can show that applying the BMP is technically or economically impracticable.

MD MR 11: PHMA—All PHMA would be closed to new mineral materials development but continued use of existing pits would be allowed. New free use permits and the expansion of existing pits may be considered only if the following criteria are met:

- a. The disturbance cap is not exceeded in a BSU
- b. The activity is subject to the provisions set forth in the mitigation framework (Appendix F [of the 2018 Final EIS])
- c. All applicable RDFs are applied
- d. The activity is permissible under the Idaho exception and development criteria (MD SSS 29 and MD SSS 30)
- e. IHMA—All IHMA would be open to mineral materials development, consistent with the Idaho Anthropogenic Disturbance Criteria (MD SSS 30) and subject to RDFs and buffers.

GHMA: All GHMA would be open to mineral materials development, subject to BMPs as described in Appendix C [of the 2018 Final EIS].

MD MR 15: PHMA are closed to leasing. IHMA and GHMA: Areas in known phosphate leasing areas would remain open to leasing, subject to standard stipulations. IHMA outside of KPLA are open to prospecting and subsequent leasing, provided the anthropogenic disturbance development criteria (MD SSS 30) and the anthropogenic disturbance cap (MD SSS 27) can be met.

RDFs and buffers would be applied to prospecting permits.

GHMA: Lands outside known phosphate leasing areas are available for prospecting and subsequent leasing and initial mine development subject to standard stipulations and BMPs, as described in Appendix C [of the 2018 Final EIS].

MD RE 1: PHMA—Designate and manage as exclusion areas for utility scale (20 megawatts) wind and solar testing and development and nuclear and hydropower energy development. IHMA—Designate and manage as avoidance areas for wind and solar testing and development, and nuclear and hydropower

development. GHMA (Idaho)—Designate and manage as open for wind and solar testing and nuclear and hydropower development.

MD LR 2: PHMA—Designate and manage as ROW avoidance areas, consistent with MD SSS 29 and subject to RDFs and buffers (**Appendices B and C**). IHMA—Designate and manage as ROW avoidance areas, consistent with MD SSS 30 and subject to RDFs and buffers. GHMA—Designate and manage as open, with proposals subject to BMPs, as described in Appendix C [of the 2018 Final EIS].

### ***Modifying Habitat Objectives***

OBJ SSS 2: In PHMA and IHMA, maintain large intact sagebrush steppe communities with vegetation characteristics consistent with their ecological potential such that Greater Sage-Grouse can select suitable seasonal habitats for breeding, nesting, rearing young, and wintering. Greater Sage-Grouse select suitable use areas in large intact sagebrush ecosystems. Not every site would provide for every Greater Sage-Grouse need, which is why they require large intact sagebrush ecosystems.

The desired conditions for Greater Sage-Grouse (see Table 2.2 in the 2015 Final EIS) are a list of indicators, characteristics, and values that describe Greater Sage-Grouse seasonal habitat use areas. The BLM used indicator values derived from a synthesis of local and regional Greater Sage-Grouse habitat research and data to describe the typical vegetation communities that Greater Sage-Grouse select. While the desired conditions are not attainable on every site or every acre in designated Greater Sage-Grouse habitat management areas, the values reflect a range of habitat conditions that generally lead to greater survival of individuals in a population. When permitting land use activities, the BLM would consider the ecological site potential in designated habitat management areas to validate the habitat conditions achievable for a specific site.

The seasonal habitat descriptions in Table 2.2 in the 2015 Final EIS vary across the range of Greater Sage-Grouse, in a subregion, and between sites. They are not land health standards but are quantitative measures that help inform the special status species habitat land health standard for Greater Sage-Grouse. These measurable values reflect ecological potential and may be adjusted, based on local factors influencing Greater Sage-Grouse habitat selection. Local data or recent science may indicate that Greater Sage-Grouse select for vegetation structure and composition in seasonal habitats not characterized by the values in the desired conditions table. In these cases, it may be appropriate to adjust the values. Desired conditions should be evaluated in the context of annual variability in ecological conditions and should not be used singly to determine habitat suitability for Greater Sage-Grouse. As appropriate, they may be used to demonstrate trends over time, during plan evaluations for effectiveness of Greater Sage-Grouse conservation, or when identifying limiting habitat characteristics for a given area.

The indicators, characteristics, values, and desired seasonal habitat conditions in the Greater Sage-Grouse plan desired conditions table are meant to inform the wildlife habitat component of the land health standards evaluation process (43 CFR 4180.2) but do not replace rangeland health assessments. Results from the land health standards evaluation should be used to support the BLM in land use authorization processes and during development of appropriate objectives for management actions, such as vegetation treatments.



The desired conditions tables are to be used as follows:

- To assess habitat suitability, as defined by BLM policy and the Habitat Assessment Framework, for Greater Sage-Grouse at the appropriate scale
- To describe desired conditions that provide habitat at multiple spatial scales, as defined by the best available science
- To evaluate land use plan effectiveness for Greater Sage-Grouse conservation
- To develop measurable project objectives for actions in BLM-designated Greater Sage-Grouse habitat management areas, as needed, when considered alongside land health standards, ecological potential, and local information

Update Table 2.2 from the 2015 ARMPA as follows:

<b>NESTING/EARLY BROOD REARING (Seasonal Use Period May 1–June 30)</b>			
Cover and food	Perennial grass (and forb) height (includes residual grasses)	Adequate nesting cover	Connelly et al. 2000; <sup>8</sup> Connelly et al. 2003; <sup>9</sup> Hagen et al. 2007; <sup>11</sup> Stiver et al. 2015; <sup>13</sup> Hausleitner 2005  Holloran et al. 2005  Gibson et al. 2016  Smith et al. 2017  Smith et al. 2018

### ***Modifying Decisions for Livestock Grazing***

MD LG 15: Generally, the BLM would prioritize (1) the review of grazing permits/leases, in particular to determine if modification is necessary prior to renewal, and (2) the processing of grazing permits/leases based on land health conditions or concerns related to rangeland health standards. If similar issues are found in both PHMA and IHMA, then those in PHMA should be addressed first. In setting workload priorities, precedence would be given to existing permits/leases in these areas not meeting land health standards and that have declining Greater Sage-Grouse populations, defined by a soft or hard population adaptive management trigger being engaged. Greater Sage-Grouse populations that are stable or trending upward would be a lower priority for permit renewal and the assessment process. The BLM may use other criteria for prioritization to respond to urgent natural resource concerns, such as fire, and legal obligations.

MD LG 16: Grazing in the PHMA and IHMA would be managed according to the process outlined in the text below, and the grazing permit renewal process would be managed according to 43 CFR 4100, Subpart 4180, and as outlined in the process below.

- Incorporate the Greater Sage-Grouse desired conditions in Table 2.2 [of the 2015 Final EIS] and management considerations as desired conditions, and manage livestock grazing, recognizing that these conditions may not be achievable: (1) due to the existing ecological condition, ecological potential, or existing vegetation; or (2) due to causal events unrelated to existing livestock grazing; and 3) that they are not intended to be prescriptive at the allotment level.
- Conduct habitat assessments using appropriate monitoring methods. Where appropriate, make a determination of factors causing any failure to achieve the desired conditions in Table 2.2 [of

the 2015 Final EIS]. The assessment would be conducted at a resolution and scale sufficient to document the habitat condition and would include local, spatial, and interannual variability. Any determination relative to the habitat characteristics (Table 2.2 [of the 2015 Final EIS]) would be based on existing ecological condition, ecological potential, and existing vegetation information. This is to ensure the assessment recognizes whether these habitat characteristics are achievable.

- c. The assessment would rely on published characteristics of Greater Sage-Grouse habitat and the ecological site descriptions, on Table 2.2 [of the 2015 Final EIS as amended], and where available and applicable, rangeland health determinations made in accordance with 43 CFR 4180.2(c).
- d. After conducting the assessment in (b), above, if the current grazing system achieves applicable Idaho rangeland health standards, absent substantial and compelling information, no further grazing management changes are necessary to achieve desired conditions for Greater Sage-Grouse habitat.
- e. If the process and conditions outlined in (b), above demonstrate that livestock grazing is limiting achievement of the desired conditions (Table 2.2 [of the 2015 Final EIS]), renewed permits would include measures, including but not limited to the actions outlined in Appendix C [of the 2018 Final EIS] to achieve desired habitat conditions. These measures must be tailored to address the specific management issues.
- f. Adaptive management changes related to existing grazing permits should be undertaken only where improper grazing is determined to be the causal factor in not meeting habitat characteristics, specific to site capability, based on monitoring, with appropriate spatial variability. See Appendix C.
- g. Where management changes are needed and necessary pursuant to (f), above, implement management actions that are narrowly tailored to address the specific habitat objective applied at the allotment or activity plan level, including the actions outlined in Appendix C [of the 2018 Final EIS], Grazing Section of BMPs.

MD LG 17: Allotments in PHMA, focusing on those with declining Greater Sage-Grouse populations, defined by a soft or hard adaptive management trigger being engaged and/or with land health concerns, would be prioritized for field checks. This is to help ensure compliance with the terms and conditions of the grazing permits. Field checks can include monitoring for actual use, utilization, and use supervision.

MD WHB 2: Complete rangeland health assessments for herd management areas containing Greater Sage-Grouse habitat using an interdisciplinary team of range, wildlife, and riparian specialists. The priority for conducting assessments is herd management areas with known land health issues and where local populations of Greater Sage-Grouse are in decline according to the adaptive management trigger standards. When similar issues are found in multiple herd management areas, then the priority should be: 1) herd management areas containing PHMA; 2) herd management areas containing IHMA; 3) herd management areas containing GHMA; 4) herd management areas containing Greater Sage-Grouse habitat outside of PHMA, IHMA, and GHMA mapped habitat; 5) herd management areas without Greater Sage-Grouse habitat.

### ***Modifying the Mitigation Strategy to Align with the State Mitigation Strategy***

In all designated Greater Sage-Grouse habitat, in undertaking BLM management actions, and consistent with valid existing rights and applicable law, in authorizing third-party actions that result in habitat loss and degradation, the BLM would achieve the planning-level Greater Sage-Grouse management goals and

objectives through implementation of mitigation and management actions. Under this Proposed Plan Amendment, management would be consistent with the Greater Sage-Grouse goals and objectives, and in conformance with BLM Manual 6840, Special Status Species Management. In accordance with BLM Manual 6840, the BLM would undertake planning decisions, actions and authorizations “to minimize or eliminate threats affecting the status of [Greater Sage-Grouse] or to improve the condition of [Greater Sage-Grouse] habitat” across the planning area.

The BLM has determined that FLPMA does not explicitly mandate or authorize the BLM to require public land users to implement compensatory mitigation as a condition of obtaining authorization for the use of the public lands. Therefore, consistent with valid existing rights and applicable law, when authorizing third-party actions that result in habitat loss and degradation, the BLM would consider voluntary compensatory mitigation actions only as a component of compliance with a State mitigation plan, program, or authority, or when offered voluntarily by a project proponent.

Project-specific analysis would be necessary to determine how a compensatory mitigation proposal addresses impacts from a proposed action. The BLM would cooperate with the State to determine appropriate project design and alignment with State policies and requirements, including those regarding compensatory mitigation. When the BLM is considering compensatory mitigation as a component of the project proponent’s submission or based on a recommendation from the State, the BLM’s NEPA analysis would evaluate the need to avoid or minimize impacts of the proposed project and achieve the goals and objectives of this RMPA. The BLM would defer to the appropriate State authority to quantify habitat offsets, durability, and other aspects used to determine the recommended compensatory mitigation action.

The BLM would not deny a proposed authorization in Greater Sage-Grouse habitat solely on the grounds that the proponent has not proposed or agreed to undertake voluntary compensatory mitigation. In cases where waivers, exceptions, or modification may be granted for projects with a residual impact, voluntary compensatory mitigation consistent with the State’s management goals can be one mechanism by which a proponent achieves the RMPA goals, objectives, and waiver, exception, or modification criteria. When a proponent volunteers compensatory mitigation as their chosen approach to address residual impacts, the BLM can incorporate those actions into the rationale used to grant a waiver, exception, or modification. The final decision to grant a waiver, exception, or modification would be based, in part, on criteria consistent with the State’s Greater Sage-Grouse management plans and policies.

In 2015, Governor Otter issued Executive Order 2015-04 directing all Idaho executive agencies to implement the Idaho Greater Sage-Grouse Management Plan to the extent consistent with state law. The application of the foundational elements of the management plan is consistent with the USFWS Conservation Objectives Team Report and apply across all land ownerships in Idaho. This plan included compensatory mitigation for large-scale anthropogenic development within a set of project screening criteria, based on the three-tiered management approach if new, significant, and unavoidable impacts are demonstrated to be associated with the project. In the Governor’s plan, if unavoidable impacts are demonstrated to be associated with the project, a compensatory mitigation plan would be based on the guiding principles of Idaho’s Mitigation Framework, 2011.

The BLM recognizes that Greater Sage-Grouse is a State-managed species, and, in accordance with 43 CFR 24.3(a), that State authority regarding fish and resident wildlife guides how the BLM cooperates

with the State in the absence of specific, overriding federal law. Further, the BLM recognizes that state governments have established fish and wildlife agencies that are charged with the responsibility and mandate to implement state statutes for effective, appropriate, and efficient conservation and management of fish and resident wildlife species. Accordingly, the BLM has coordinated with the State to develop a memorandum of agreement (MOA) to guide the application of the mitigation hierarchy and compensatory mitigation actions for future project authorizations in Greater Sage-Grouse habitat on BLM-administered lands.

The MOA describes the State's policies, authorities, and programs for Greater Sage-Grouse conservation and the process regarding how the BLM would incorporate avoidance, minimization, and other recommendations from the State necessary to improve the condition of Greater Sage-Grouse habitat consistent with RMPA goals and objectives, in one or more of the NEPA analysis alternatives. The MOA would be implemented to provide an improvement to Greater Sage-Grouse habitat at a State level (as opposed to a WAFWA Management Zone or a Field Office), in collaboration with applicable partners (e.g., federal, tribal, and state agencies). Generally, and as described in the MOA, when the BLM receives applications for projects in Greater Sage-Grouse habitat, the BLM would ensure project design is aligned with State requirements and would ensure the proponent coordinates with the State to develop any additional mitigation—including compensatory mitigation—that the State may recommend in order to comply with State policies and programs for the conservation of Greater Sage-Grouse.

When considering third-party actions that result in habitat loss and degradation, BLM would work with the applicant to apply avoidance and minimization mitigation options. If the proposal would have residual effects that cause habitat loss and degradation, the BLM would complete the following steps, in alignment with the Governor of Idaho's Executive Order 2015-04:

1. Notify the Idaho Office of Species Conservation (OSC) to determine if the State requires or recommends any additional mitigation – including compensatory mitigation – under State regulations, policies, or programs related to the conservation of Greater Sage-Grouse.
2. If the OSC determines that there are unacceptable residual impacts on Greater Sage-Grouse or its habitat and compensatory mitigation is required as a part of State policy or authorization, or if a proponent voluntarily offers mitigation, the BLM would incorporate that mitigation into the BLM's NEPA and decision-making process.
3. The BLM would recommend to the project proponent that it coordinate with the State of Idaho to ensure it complies with all applicable State requirements relating to its proposal.
4. The BLM would ensure mitigation outcomes are consistent with the State of Idaho's mitigation strategy and principles outlined in Appendix F [of the 2018 Final EIS ] including, but not limited to:
  - a. achieves measurable outcomes for Greater Sage-Grouse habitat function that are at least equal to the lost or degraded values
  - b. provides benefits that are in place for at least the duration of the impacts
  - c. accounts for a level of risk that the mitigation action may fail or not persist for the full duration of the impact

MD MT 3: In PHMA, IHMA, and GHMA, in undertaking BLM management actions, and consistent with valid existing right and applicable law, in authorizing third-party actions that result in habitat loss and

degradation (Appendix E, Table E-1 [of the 2018 Final EIS]), the BLM would work towards achieving the planning-level Greater Sage-Grouse management goals and objectives through implementation of mitigation and management actions. Under this Proposed Plan Amendment, the BLM Greater Sage-Grouse management would be consistent with the Greater Sage-Grouse goals and objectives, and in conformance with BLM Manual 6840, *Special Status Species Management*, undertake planning decisions, actions and authorizations “to minimize or eliminate threats affecting the status of [Greater Sage-Grouse] or to improve the condition of [Greater Sage-Grouse] habitat” across the planning area. Further, the BLM recognizes that the state of Idaho’s state Greater Sage-Grouse management goals and policies include mitigation that provides no net loss to Greater Sage-Grouse, including accounting for any uncertainty associated with the effectiveness of such mitigation. This would be achieved by ensuring Greater Sage-Grouse habitat impacts are addressed by implementing mitigating actions in coordination with the State of Idaho and the Proposed Plan Amendment.

MD SSS 30: The applicant would work with the State of Idaho to submit a proposal that meets all of the following anthropogenic disturbance development criteria in the screening and assessment process for proposals in PHMA and IHMA. This is to discourage additional disturbance in PHMA and IHMA (as described in MD LR 2 and MD RE 1):

- Through coordination with the State of Idaho (as described in MD CC 1), it is determined that the project cannot be achieved, technically or economically, outside of this management area
- The project siting and/or design should best reduce cumulative impacts and/or impacts on Greater Sage-Grouse and other high value natural, cultural, or societal resources; this may include collocation in the footprint for existing infrastructure, to the extent practicable
- The State of Idaho determines in coordination with BLM the project results in **no net loss** to Greater Sage-Grouse key habitat or, with mitigation actions, reduces habitat fragmentation or other threats in the conservation area;
- Development would adhere to the RDFs described in Appendix C [of the 2018 Final EIS]
- The project would not exceed the disturbance cap (MD SSS 27)
- Large-scale anthropogenic disturbances in PHMA and IHMA would be reviewed by the technical and policy teams, as described in MD SSS 44

MD LR 14: Lands classified as PHMA, IHMA, and GHMA for Greater Sage-Grouse would be retained in federal management, unless: (1) the agency can demonstrate that disposal of the lands, including land exchanges, would provide **no net loss** to the Greater Sage-Grouse, or (2) the agency can demonstrate that the disposal, including land exchanges, of the lands would have no direct or indirect adverse impact on conservation of the Greater Sage-Grouse.

Land tenure adjustments would be subject to the following disposal, exchange, and acquisition criteria, which include retaining lands with Greater Sage-Grouse habitat. This would reduce the likelihood of habitat conversion to agriculture, urbanization, or other uses that would remove sagebrush habitat and potentially affect sensitive plants.

- Retain lands in PHMA, IHMA, and GHMA. However, on a case by case basis, consider whether disposal of those lands would increase the extent or provide for connectivity of PHMA, IHMA, or GHMA.

- Recognizing that the goal of the Department of the Interior is to keep lands in federal ownership, the BLM would evaluate potential land exchanges containing historically low-quality Greater Sage-Grouse habitat that may be too costly to restore in exchange for lands of higher quality habitat, lands that connect seasonal Greater Sage-Grouse habitats, or lands providing for threatened and endangered species. These potential exchanges should increase the extent or continuity of or provide for improved connectivity of PHMA. Higher priority would be given to exchanges for those intact areas of sagebrush that would contribute to the expansion of sagebrush areas in PHMA currently in public ownership. Lower priority would be given to other lands that would enhance the IHMA and GHMA, such as areas with fragmented or less intact sagebrush.
- Lands for acquisition increase the extent of or provide for connectivity of PHMA.

OBJ MR 2: Where a proposed fluid mineral development project on an existing lease can adversely affect Greater Sage-Grouse populations or habitat in PHMA, IHMA, and GHMA, the BLM would work with the lessees, operators, or other project proponents to avoid and minimize impacts to the extent compatible with lessees' rights to drill and produce fluid mineral resources. The BLM would work with the lessee, operator, or project proponent in developing applications for permit to drill or geothermal drilling permit for the lease. This would be to apply the mitigation hierarchy to impacts on Greater Sage-Grouse or its habitat and would ensure that the best information about the Greater Sage-Grouse and its habitat informs and helps to guide development of such federal leases.

### ***Modifying Adaptive Management Strategy***

MD SSS 15: The data from the lek counts and the key habitat map update would be reviewed annually to determine if any hard or soft adaptive management triggers have been met.

MD SSS 20: Population soft triggers are defined as one of the following:

- A 10 percent decline in the current 3-year average of total maximum number of males counted, compared to the 2011 maximum male baseline and a finite rate of change ( $\lambda$ ) below 1.0 within PHMA within a conservation area over the same 3-year period
- A 10 percent decline in the current 3-year average of total maximum number of males counted, compared to the 2011 maximum male baseline and a finite rate of change ( $\lambda$ ) below 1.0 within IHMA within a conservation area over the same 3-year period

Significance for soft triggers is defined by the 80 percent confidence interval around the current 3-year finite rate of change. If the 80 percent confidence interval is less than and does not include 1.0, then the finite rate of change is considered significant. The finite rate of change and variance would be calculated following Garton et al. (2011).

MD SSS 24: Remove the automatic hard trigger adaptive management response when the habitat or maximum male population count (i.e., 3-year average) returns to or exceeds the 2011 baseline levels within the associated conservation area, in accordance with the adaptive management strategy (Appendix E [of the 2018 Final EIS]). In such a case, changes in management allocations resulting from a tripped trigger would revert to the original allocation (MD SSS 22).

### **Modifying Appendices**

The following appendices from the 2015 Final EIS are proposed for change in this amendment:

- Appendix A (update mapping to match decisions in this Proposed Plan Amendment)—Display the following changes:
  - Update to display only Idaho
  - Remove SFA
  - Update PHMA and IHMA boundaries to reflect the change of the Brown’s Creek area from PHMA to IHMA
  - Update PHMA, IHMA, and GHMA boundaries to reflect corrections to administrative errors
  - Update BSU boundaries to reflect the change of the Brown’s Creek area from PHMA BSU to IHMA BSU
- Appendix B (modification to buffer distances in IHMA and GHMA)
- Appendix C (clarification and some modification of RDFs)
- Appendix E (removal/additions to match decisions in this Proposed Plan Amendment)
- Appendix F (modification to match decisions in this Proposed Plan Amendment)
- Appendix K (would be added to help explain the two-team approach)

## **2.5 OTHER ALTERNATIVES CONSIDERED**

### **2.5.1 Varying Constraints on Land Uses and Development Activities**

During scoping, some commenters asked the BLM to consider additional constraints on land uses and ground-disturbing development activities to protect Greater Sage-Grouse habitat. These constraints are beyond those in the current management plan.<sup>1</sup> Other commenters, in contrast, asked the BLM to consider eliminating or reducing constraints on land uses, or incorporating other flexibilities into the BLM’s implementation of RMPs, in addition to those issues that are already evaluated in the Management Alignment Alternative. The BLM considered every scoping comment and, where appropriate, incorporated these issues into the Management Alignment Alternative, following coordination with the State. Because the purpose and need for the BLM’s action, building off of the 2015 ROD/ARMPA, is to enhance cooperation with the States by seeking to better align the BLM’s RMPs with individual state plans and/or conservation measures, the BLM gave great weight to the States’ identification of issues that warrant consideration in that planning effort.

The 2018 planning process did not revisit every issue that the BLM evaluated in 2015. Instead, the BLM addressed refinements to the 2015 ROD/ARMPA decisions, consistent with the BLM’s purpose and need for action. Accordingly, this FSEIS has its foundation in the comprehensive 2015 and 2019 Final EISs, and incorporates those documents by reference—including the entire range of alternatives evaluated through the 2015 planning process:

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<sup>1</sup>For example, this 2019 planning process, built upon the 2015 planning process, will continue to ensure that the BLM complies with its special status species policy, including the commitment to “implement measures to conserve [special status] species and their habitats...and promote their conservation and reduce the likelihood and need for such species to be listed pursuant to the ESA.” (BLM Manual 6840, Special Status Species Management)

- Alternative A would have retained the management goals, objectives and direction specified in the BLM RMPs and the Forest Service land and resource management plans effective prior to the 2015 ROD/ARMPA.
- Alternative B was based on the conservation measures developed by the National Technical Team planning effort in Washington Office IM 2012-044. As directed in the IM, the conservation measures developed by the National Technical Team must be considered and analyzed, as appropriate, through the land use planning process and NEPA by all BLM state and field offices that contain occupied Greater Sage-Grouse habitat. Most management actions included in Alternative B would have been applied to PHMA.
- Alternative C was based on a citizen group's recommended alternative. This alternative emphasized improvement and protection of habitat for Greater Sage-Grouse and was applied to all occupied Greater Sage-Grouse habitat. Alternative C would have limited commodity development in areas of occupied Greater Sage-Grouse habitat and would have closed or designated portions of the planning area to some land uses.
- Alternative D, which was identified as the Preferred Alternative in the Draft 2018 RMPA/EIS, balanced opportunities to use and develop the planning area and protects Greater Sage-Grouse habitat based on scoping comments and input from cooperating agencies involved in the alternatives development process. Protective measures would have been applied to Greater Sage-Grouse habitat.
- Alternative E was the alternative provided by the State or Governor's offices for inclusion and analysis in the EISs. It incorporated guidance from specific State Conservation strategies and emphasized management of Greater Sage-Grouse seasonal habitats and maintaining habitat connectivity to support population objectives. This alternative was identified as a co-Preferred Alternative in the Idaho Draft EIS.
- Alternative F was also based on a citizen group-recommended alternative. This alternative emphasized improvement and protection of habitat for Greater Sage-Grouse and defined different restrictions for PHMA and GHMA. Alternative F would have limited commodity development in areas of occupied Greater Sage-Grouse habitat and would have closed or designated portions of the planning area to some land uses.
- The Proposed LUPA incorporated guidance from specific State Conservation strategies, as well as additional management based on the National Technical Team recommendations. This alternative emphasized management of Greater Sage-Grouse seasonal habitats and maintaining habitat connectivity to support population objectives.

The BLM considered the entire range of alternatives from the 2015 Final EIS to identify issues meriting reconsideration, given the BLM's goal of enhancing alignment with state plans. In this manner, the BLM would continue to appropriately manage Greater Sage-Grouse and its habitat through this planning effort in tandem with the 2015 ROD/ARMPA.

Further, additional constraints on land uses or development without a documented need would not meet the purpose of SO 3353. As part of the consideration of whether to amend the 2015 Greater Sage-Grouse RMPs, the BLM requested the USGS to develop an annotated bibliography of Greater Sage-Grouse science published since January 2015 (Carter et al. 2018; see **Section 3.1**). In addition, SO 3353 directs the BLM to promote habitat conservation, while contributing to economic growth and energy independence. As analyzed in the 2015 Final EIS (Section 4.15), all of the previously analyzed



alternatives, including one proposing constraints stricter than the current management plan, were predicted to result in a loss of development opportunities on public lands.

## **2.6 DESCRIPTION OF ALTERNATIVES FROM 2018**

### **2.6.1 No-Action Alternative**

Under the No-Action Alternative, the BLM would not have amended the RMPs amended by the Idaho and Montana Greater Sage-Grouse Resource Management Plan Amendment (2015 ROD/ARMPA). Greater Sage-Grouse habitat would have continued to be managed under the 2015 ROD/ARMPA management direction. Goals and objectives for BLM-administered lands and federal mineral estate would not have changed. Allowable uses and restrictions pertaining to activities such as mineral leasing and development, recreation, lands and realty, and livestock grazing would also have remained the same.

### **2.6.2 Management Alignment Alternative**

This alternative is derived through coordination with the State and cooperating agencies to better align with the Idaho Governor's conservation plan and to support conservation outcomes for Greater Sage-Grouse. The BLM continues to build upon the 2015 planning effort as envisioned in SO 3353 by collaborating with states and stakeholders to improve compatibility between federal management plans and other plans and programs at the state level, while ensuring consistency with the BLM's multiple use mission.

This enhanced cooperation between the BLM and the Governor's office would lead to improved management and coordination with states across the range of Greater Sage-Grouse. The Management Alignment Alternative aligns the 2015 ROD/ARMPA with the Governor's Plan by strategically removing or altering the specific points of contention while preserving those parts that were already in alignment with the substance of the Governor's Plan. All parts of the existing 2015 ROD/ARMPA in Idaho would remain in place except those specifically called out for change or deletion in this alternative. At the request of the State, the Management Alignment Alternative in the Draft 2018 RMPA/EIS proposes a change to compensatory mitigation by modifying the net conservation gain standard that the BLM incorporated into its plans in 2015. The DOI and the BLM have also modified their mitigation policies since the 2015 plans were finalized. The public did not have the opportunity to comment specifically on a net conservation gain approach to compensatory mitigation during the 2015 land use planning process. In addition, the DOI and the BLM are evaluating whether the implementation of compensatory mitigation standard on public lands is appropriate and consistent with applicable legal authorities. We request public comment about how the BLM should consider and implement mitigation with respect to the Greater Sage-Grouse, including alternative approaches to requiring compensatory mitigation in BLM land use plans.

Consistent with the Notice of Cancellation, which canceled the BLM's application to withdraw SFA from locatable mineral entry (82 *Federal Register* 195, October 11, 2017, p. 47248), this alternative would remove the recommendation for withdrawal. The effects of such action are included in **Chapter 4**.

In 2012 Governor C. L. "Butch" Otter proposed an approach that divided Greater Sage-Grouse habitat in Idaho into three management zones. These three zones provide a management continuum where the highest priority habitats have the most protections and the lowest priority habitats have the fewest protections and the most flexibility for multiple use management. This approach allows land management agencies to focus future disturbance in lower quality habitat or non-habitat areas. The 2015 ROD/ARMPA adopted this strategy and identified the habitat management zones as PHMA, IHMA, and

GHMA; both alternatives in the 2018 RMPA/EIS continue this theme. To align with the Governor's Plan, the Management Alignment Alternative also provides a management continuum where the highest priority habitats have the most protections and the lowest priority habitats have the fewest protections and the most flexibility for multiple use management.

### **2.6.3 Detailed Description of Alternatives Considered during the 2019 Planning Process**

BLM considered a range of reasonable alternatives when responding to Secretary's Order 3353 to enhance cooperation with Western States in the management and conservation of Greater Sage-Grouse and its habitat. The BLM reconsidered the six alternatives it analyzed in detail during the 2015 planning process and two new alternatives during the 2019 planning process. The BLM incorporated the 2015 alternatives by reference into the 2018 Final EISs, for a total of eight alternatives evaluated in detail.

The following three tables illustrate the alternatives that the BLM considered during the 2019 land use planning effort. **Table 2-2** summarizes the alternatives that the BLM evaluated in detail during the 2019 planning effort, as well as alternatives that the BLM considered but did not analyze in detail.

**Table 2-3** describes in detail the new alternatives developed during the 2019 planning effort to address the issues raised during scoping. Because the 2019 effort was focused on aligning BLM Greater Sage-Grouse management with State plans, BLM focused on a narrower set of issues and therefore only two additional alternatives were analyzed in detail. However, that did not limit the BLM which incorporated analysis from 2015 to consider all the alternatives considered in 2015 as well.

**Table 2-4** describes in detail the alternatives developed during the 2015 planning effort that were also considered in the most recent Greater Sage-Grouse land use planning process. **Table 2-4** is considerably longer than **Table 2-3** because the 2015 process addressed many more issues than the focused 2019 planning effort.

**Table 2-2**  
**Alternatives Considered During the 2019 Planning Process**

<b>Idaho Planning Document</b>	<b>Document Date</b>	<b>Alternative Title</b>	<b>Analysis Level</b>	<b>Alternative Description</b>
Idaho and Southwestern Montana Greater Sage-Grouse Proposed LUPA/Final EIS	June 2015	Alternative A	Fully Analyzed	Alternative A would have retained the management goals, objectives and direction specified in the BLM RMPs and the Forest Service land and resource management plans effective prior to the 2015 ROD/ARMPA.
Idaho and Southwestern Montana Greater Sage-Grouse Proposed LUPA/Final EIS	June 2015	Alternative B	Fully Analyzed	Alternative B was based on the conservation measures developed by the National Technical Team planning effort in Washington Office IM 2012-044. As directed in the IM, the conservation measures developed by the National Technical Team must be considered and analyzed, as appropriate, through the land use planning process and NEPA by all BLM state and field offices that contain occupied Greater Sage-Grouse habitat. Most management actions included in Alternative B would have been applied to PHMA. This alternative analyzed designation of 4 new ACECS.
Idaho and Southwestern Montana Greater Sage-Grouse Proposed LUPA/Final EIS	June 2015	Alternative C	Fully Analyzed	Alternative C was based on a citizen group's recommended alternative. This alternative emphasized improvement and protection of habitat for Greater Sage-Grouse and was applied to all occupied Greater Sage-Grouse habitat. Alternative C would have limited commodity development in areas of occupied Greater Sage-Grouse habitat and would have closed or designated portions of the planning area to some land uses.
Idaho and Southwestern Montana Greater Sage-Grouse Proposed LUPA/Final EIS	June 2015	Alternative D	Fully Analyzed	Alternative D, which was identified as the Preferred Alternative in the Draft RMPA/EIS, balanced opportunities to use and develop the planning area and protects Greater Sage- Grouse habitat based on scoping comments and input from cooperating agencies involved in the alternatives development process. Protective measures would have been applied to Greater Sage-Grouse habitat.
Idaho and Southwestern Montana Greater Sage-Grouse Proposed LUPA/Final EIS	June 2015	Alternative E	Fully Analyzed	Alternative E was the alternative provided by the State or Governor's offices for inclusion and analysis in the EISs. It incorporated guidance from specific State Conservation strategies and emphasized management of Greater Sage-Grouse seasonal habitats and maintaining habitat connectivity to support population objectives. This alternative was identified as a co-Preferred Alternative in the Idaho Draft EIS.

2. Alternatives (Table 2-2: Alternatives Considered During the 2019 Planning Process)

<b>Idaho Planning Document</b>	<b>Document Date</b>	<b>Alternative Title</b>	<b>Analysis Level</b>	<b>Alternative Description</b>
Idaho and Southwestern Montana Greater Sage-Grouse Proposed LUPA/Final EIS	June 2015	Alternative F	Fully Analyzed	Alternative F was also based on a citizen group-recommended alternative. This alternative emphasized improvement and protection of habitat for Greater Sage-Grouse and defined different restrictions for PHMA and GHMA. Alternative F would have limited commodity development in areas of occupied Greater Sage-Grouse habitat and would have closed or designated portions of the planning area to some land uses.
Idaho and Southwestern Montana Greater Sage-Grouse Proposed LUPA/Final EIS	June 2015	USFWS-Listing Alternative	Considered; Not Analyzed in Detail	Comments provided through scoping requested analysis of an alternative based on the assumption that Greater Sage-Grouse become listed under the ESA. This was outside the scope; the purpose and need of this plan amendment is to address inadequacy of regulatory mechanisms that were identified as one of the listing factors for Greater Sage-Grouse in the USFWS finding on the petition to list Greater Sage-Grouse. Although the potential listing of Greater Sage-Grouse would also include conservation measures identified by the USFWS, those conservation measures were not known at this time. Therefore, an alternative that includes USFWS-listing with associated conservation measures for Greater Sage-Grouse was not being analyzed in detail.
Idaho and Southwestern Montana Greater Sage-Grouse Proposed LUPA/Final EIS	June 2015	Elimination of Recreational Hunting	Considered; Not Analyzed in Detail	Neither the BLM nor the Forest Service regulate hunting activities on federal lands; this responsibility resides with IDFG, MFWP, and Utah Division of Wildlife Resources. IDFG, MFWP, and the Utah Division of Wildlife Resources manage wildlife within Idaho, Montana, and Utah, respectively, while the BLM and Forest Service manage wildlife habitat. Recreational hunting of Greater Sage-Grouse, including hunting seasons, is directed by the relevant state conservation plans for Greater Sage-Grouse and criteria therein.

2. Alternatives (Table 2-2: Alternatives Considered During the 2019 Planning Process)

<b>Idaho Planning Document</b>	<b>Document Date</b>	<b>Alternative Title</b>	<b>Analysis Level</b>	<b>Alternative Description</b>
Idaho and Southwestern Montana Greater Sage-Grouse Proposed LUPA/Final EIS	June 2015	Predation	Considered; Not Analyzed in Detail	Commenters stated that predator control was needed to protect Greater Sage-Grouse from predation. IDFG and MFWP possess primary responsibility for managing the wildlife within Idaho and Montana, respectively, while the BLM and Forest Service are responsible for managing habitat. Predator control is allowed on BLM-administered lands and is regulated by IDFG and MFWP. Avian predators such as ravens and birds of prey are protected under the Migratory Bird Treaty Act; eagles are protected under the Bald and Golden Eagle Act. Control of these avian predators is under the jurisdiction of the USFWS. Therefore, these comments relate to state- and federal-regulated actions that are outside of BLM or Forest Service authority and are outside the scope of the LUPA/EIS.
Idaho and Southwestern Montana Greater Sage-Grouse Proposed LUPA/Final EIS	June 2015	Close All or Portions of PHMA or GHMA to Off-Highway Vehicle Use	Considered; Not Analyzed in Detail	Through this LUPA/EIS, the BLM has identified, but has not studied in detail, an alternative to designate new area closures for OHV use within PHMA and GHMA. The BLM has analyzed alternatives to designate all areas within PHMAs and GHMAs as “limited” to existing roads and trails for OHV use, if not already closed by existing planning efforts. Subsequent Travel Management Plans will be developed to identify specific routes within limited areas that will be closed in order to protect and conserve Greater Sage-Grouse and its habitat. The BLM and Forest Service have analyzed existing OHV area closures within PHMAs and GHMAs as part of the No Action alternative and as a decision common to all alternatives.
Idaho Greater Sage-Grouse Draft Resource Management Plan Amendment and Environmental Impact Statement-May 2018	May 2018	No Action	Fully Analyzed	The No Action would not amend the current RMPs amended by the Idaho and Montana Greater Sage-Grouse Resource Management Plan Amendment (2015 ROD/ARMPA). Greater Sage-Grouse habitat would continue to be managed under current management direction. Goals and objectives for BLM-administered lands and federal mineral estate would not change. Allowable uses and restrictions pertaining to activities such as mineral leasing and development, recreation, lands and realty, and livestock grazing would also remain the same.

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2. Alternatives (Table 2-2: Alternatives Considered During the 2019 Planning Process)

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<b>Idaho Planning Document</b>	<b>Document Date</b>	<b>Alternative Title</b>	<b>Analysis Level</b>	<b>Alternative Description</b>
Idaho Greater Sage-Grouse Draft Resource Management Plan Amendment and Environmental Impact Statement	May 2018	Management Alignment Alternative	Fully Analyzed	This alternative was derived through coordination with the State and cooperating agencies to better align with the Idaho Governor's conservation plan and to support conservation outcomes for Greater Sage- Grouse. The BLM continued to build upon the 2015 planning effort as envisioned in SO 3353 by collaborating with states and stakeholders to improve compatibility between federal management plans and other plans and programs at the state level, while ensuring consistency with the BLM's multiple use mission.

**Table 2-3**, below, is organized by issue and provides a side-by-side comparison of the No-Action Alternative, the 2018 Draft EIS Management Alignment Alternative, and the 2018 Final EIS Proposed Plan Amendment. The Management Alignment Alternative attempts to adjust the No-Action Alternative to bring it into alignment with the Idaho Governor’s Greater Sage-Grouse Plan, while maintaining the format and all parts of the 2015 ARMPA that were not specifically identified as issues.

**Table 2-3**  
**Alternatives Analyzed in Detail During the 2019 Planning Process**

2015 ARMPA Decision Number	No-Action Alternative (2015 ARMPA Decisions) <i>Note: References to figures, tables, or appendices are those in the 2015 ROD/ARMPA.</i>	Management Alignment Alternative <i>Note: References to figures, tables, or appendices are those in the 2015 ROD/ARMPA.</i>	Proposed Plan <i>Note: References to figures, tables, or appendices are those in the 2015 ARMPA.</i>
<b>Habitat Management Area Flexibility</b>			
MD SSS 6	The management area map and Biologically Significant Unit (BSU) baseline map will be reevaluated in conjunction with plan evaluation processes (i.e., approximately every 5 years). This reevaluation can indicate the need to adjust PHMA, IHMA, or GHMA or the habitat baseline. These adjustments can occur upon completion of the appropriate analysis and process (e.g., plan amendment) to review the allocation decisions based on the map. Results from the Wildfire and Invasive Species Assessments, such as identified focal or emphasis areas, will also be used to help inform mapping adjustments during this evaluation.	The management area map and Biologically Significant Unit (BSU) baseline map will be reevaluated in conjunction with plan evaluation processes (i.e., approximately every 5 years). This reevaluation can indicate the need to adjust Conservation Area Boundaries, PHMA, IHMA, or GHMA, or the habitat or population baselines. These adjustments can occur upon completion of the appropriate analysis and process (e.g., plan maintenance in coordination with the teams identified in MD SSS 44) to review the allocation decisions based on the map. Results from the Wildfire and Invasive Species Assessments, such as identified focal or emphasis areas, will also be used to help inform mapping adjustments during this evaluation.	The management area map and Biologically Significant Unit (BSU) baseline map will be reevaluated in conjunction with plan evaluation processes (i.e., approximately every 5 years). This reevaluation can indicate the need to adjust Conservation Area Boundaries, PHMA, IHMA, or GHMA, or the habitat or population baselines. These adjustments can occur upon completion of the appropriate analysis and process (e.g., plan maintenance in coordination with the teams identified in MD SSS 44) to review the allocation decisions based on the map. Results from the Wildfire and Invasive Species Assessments, such as identified focal or emphasis areas, will also be used to help inform mapping adjustments during this evaluation.
MD SSS 9	Areas of habitat outside of delineated habitat management areas identified during the Key habitat update process will be evaluated during site specific NEPA for project level activities and Greater Sage-Grouse required design features (Appendix C [of the 2015 Final EIS]) and buffers (Appendix B [of the 2015 Final EIS]) will be included as part of project design. These areas will be further evaluated during plan evaluation and the 5-year update to the management areas, to determine whether they should be included as PHMA, IHMA, or GHMA.	Delete	Delete
-	Habitat Designations for PHMA, IHMA, and GHMA remain the same as mapped in the 2015 ARMPA.	The boundaries of the habitat designations have been adjusted to correct administrative errors to the 2015 mapping. This includes removing some areas of non-habitat that were added to PHMA as part of the SFA designations. Additionally, in the West Owyhee Conservation Area, the circle of 60,706 acres of PHMA (Brown’s Creek Area) that is surrounded by IHMA will be re-designated as IHMA (See Map I). 11,828 acres of PHMA would be changed to non-habitat, and 60,706 acres of PHMA would be changed to IHMA.	The boundaries of the habitat designations have been adjusted to correct administrative errors to the 2015 mapping. This includes removing some areas of non-habitat that were added to PHMA as part of the SFA designations. Additionally, in the West Owyhee Conservation Area, the circle of 60,706 acres of PHMA (Brown’s Creek Area) that is surrounded by IHMA will be re-designated as IHMA (See Map I). 11,828 acres of PHMA would be changed to non-habitat, and 60,706 acres of PHMA would be changed to IHMA.
New MD SSS 44	-	The BLM will, in collaboration with the Idaho Governor’s Office of Species Conservation (OSC), Idaho Department of Fish and Game (IDFG), US Fish and Wildlife Service (USFWS), and potentially other state and federal agencies, form two teams (Technical Team and Policy Team), through an MOU, that will be responsible for review of proposed infrastructure developments, exceptions, variances, adaptive management triggers and responses, habitat management area adjustments, mitigation, etc. as described in detail in Appendix K [of the 2015 Final EIS].	The BLM will, in collaboration with the Idaho Governor’s Office of Species Conservation (OSC), Idaho Department of Fish and Game (IDFG), US Fish and Wildlife Service (USFWS), and potentially other state and federal agencies, form two teams (Technical Team and Policy Team), through an MOU, that will be responsible for review of proposed infrastructure developments, exceptions, variances, adaptive management triggers and responses, habitat management area adjustments, mitigation, etc. as described in detail in Appendix K [of the 2015 Final EIS].

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Removing Sagebrush Focal Area Designations			
MD SSS 10	<b>MD SSS 10:</b> Designate Sagebrush Focal Areas (SFA) as shown on Figure 1-2. SFA will be managed as PHMA, with the following additional management: <ul style="list-style-type: none"><li>Recommended for withdrawal from the General Mining Act of 1872, as amended, subject to valid existing rights.</li><li>Managed as NSO, without waiver, exception, or modification, for fluid mineral leasing.</li><li>Prioritized for vegetation management and conservation actions in these areas, including, but not limited to, land health assessments, wild horse and burro management actions, review of livestock grazing permits/leases, and habitat restoration (see specific management sections).</li></ul>	Delete MD SSS 10 (no areas would be managed as SFA).	Delete MD SSS 10 (no areas would be managed as SFA).
MD MR 10	Recommend SFA for withdrawals from the General Mining Act of 1872, as amended, subject to valid existing rights.	Delete MD MR 10	Delete MD MR 10
MD WHB 3	Prioritize gathers and population growth suppression techniques in HMAs in Greater Sage-Grouse habitat, unless removals are necessary in other areas to address higher priority environmental issues, including herd health impacts. Place higher priority on Herd Areas not allocated as HMAs and occupied by wild horses and burros in SFA followed by PHMA.	Prioritize gathers and population growth suppression techniques in HMAs in Greater Sage-Grouse habitat, unless removals are necessary in other areas to address higher priority environmental issues, including herd health impacts. Place higher priority on Herd Areas not allocated as HMAs and occupied by wild horses and burros in PHMA.	Prioritize gathers and population growth suppression techniques in HMA in Greater Sage-Grouse habitat, unless removals are necessary in other areas to address higher priority environmental issues, including herd health impacts. Place higher priority on Herd Areas not allocated as HMA and occupied by wild horses and burros in PHMA.
MD WHB 4	In SFA and PHMA outside of SFA, assess and adjust AMLs through the NEPA process within HMAs when wild horses or burros are identified as a significant causal factor in not meeting land health standards, even if current AML is not being exceeded.	In PHMA, assess and adjust AMLs through the NEPA process within HMAs when wild horses or burros are identified as a significant causal factor in not meeting land health standards, even if current AML is not being exceeded.	In PHMA, assess and adjust <b>appropriate management levels (AMLs)</b> through the NEPA process within HMA when wild horses or burros are identified as a significant causal factor in not meeting land health standards, even if current AML is not being exceeded.
MD WHB 5	In SFAs and PHMA outside of SFA, monitor the effects of wild horse and burro use in relation to Greater Sage-Grouse seasonal habitat objectives on an annual basis to help determine future management actions.	In PHMA, monitor the effects of wild horse and burro use in relation to Greater Sage-Grouse seasonal habitat objectives on an annual basis to help determine future management actions.	In PHMA, monitor the effects of wild horse and burro use in relation to Greater Sage-Grouse seasonal habitat objectives on an annual basis to help determine future management actions.
MD WHB 6	Develop or amend herd management area plans (HMAPs) to incorporate Greater Sage-Grouse habitat objectives and management considerations for all HMAs within Greater Sage-Grouse habitat, with emphasis placed on SFA and other PHMA.	Develop or amend herd management area plans (HMAPs) to incorporate Greater Sage-Grouse habitat objectives and management considerations for all HMAs within Greater Sage-Grouse habitat, with emphasis placed on PHMA.	Develop or amend herd management area plans (HMAPs) to incorporate Greater Sage-Grouse habitat objectives and management considerations for all HMA within Greater Sage-Grouse habitat, with emphasis placed on PHMA.



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Modifying Disturbance and Density Caps			
MD SSS 27	<p>For Idaho and Montana, if the 3 percent anthropogenic disturbance cap is exceeded on lands (regardless of land ownership) within Greater Sage-Grouse PHMA (or IHMA in Idaho) Habitat Management Areas in any given BSU, then no further discrete anthropogenic disturbances (subject to applicable laws and regulations, such as the General Mining Law of 1872, as amended, valid existing rights, etc.) will be permitted by BLM within Greater Sage-Grouse PHMA and IHMA in any given BSU until the disturbance has been reduced to less than the cap, as measured according to the Disturbance and Adaptive Management Appendix (Appendix E [of the 2015 Final EIS]) for the intermediate scale.</p> <p>For Idaho, if the 3 percent disturbance cap is exceeded on all lands (regardless of land ownership) within a proposed project analysis area (Appendix E [of the 2015 Final EIS]) in a PHMA (or IHMA in Idaho), then no further anthropogenic disturbance will be permitted by BLM until disturbance in the proposed project analysis area has been reduced to maintain the area under the cap (subject to applicable laws and regulations, such as the General Mining Law of 1872, as amended, valid existing rights, etc.). For Montana, if the 3 percent disturbance cap is exceeded on lands (regardless of land ownership) or if anthropogenic disturbance and habitat loss associated with conversion to agricultural tillage or fire exceed 5% within a project analysis area in PHMA, then no further discrete anthropogenic disturbances (subject to applicable laws and regulations, such as the 1872 Mining Law, valid existing rights, etc.) will be permitted by BLM within PHMA in a project analysis area until the disturbance has been reduced to less than the cap. If the BLM determines that the State of Montana has adopted a Greater Sage-Grouse Habitat Conservation Program that contains comparable components to those found in the State of Wyoming's Core Area Strategy including an all lands approach for calculating anthropogenic disturbances, a clear methodology for measuring the density of operations, and a fully operational Density Disturbance Calculation Tool, the 3% disturbance cap will be converted to a 5% cap for all sources of habitat alteration within a project analysis area.</p> <p>In both Idaho and Montana, within existing designated utility corridors, the 3% disturbance cap may be exceeded at the project scale if the site specific NEPA analysis indicates that a net conservation gain to the species will be achieved. This exception is limited to projects which fulfill the use for which the corridors were designated (ex., transmission lines, pipelines) and the designated width of a corridor will not be exceeded as a result of any project co-location.</p>	<p>If the 3 percent anthropogenic disturbance cap is exceeded on lands (regardless of landownership) within Greater Sage-Grouse PHMA (or IHMA in Idaho) habitat management areas in any given BSU, then no further discrete anthropogenic disturbances (subject to applicable laws and regulations, such as the General Mining Law of 1872, as amended, valid existing rights, etc.) will be permitted by BLM within Greater Sage-Grouse PHMA and IHMA in any given BSU until the disturbance has been reduced to less than the cap, as measured according to the Disturbance and Adaptive Management Appendix (Appendix E [of the 2015 Final EIS]) for the intermediate scale.</p> <p>For Idaho, the BSU (Figure 2-2) is defined as the currently mapped nesting and wintering habitat within PHMA and IHMA within a Conservation Area, inclusive of all ownerships. Anthropogenic disturbance excludes habitat disturbance from wildfire and fuels management activities and includes the following developments (see Appendix E [of the 2015 Final EIS] for further details):</p> <ul style="list-style-type: none"><li>• Oil and Gas Wells and Development Facilities</li><li>• Coal Mines</li><li>• Wind Towers</li><li>• Solar Fields</li><li>• Geothermal Development Facilities</li><li>• Mining (Active Locatable, Nonenergy Leasable and Saleable Developments)</li><li>• Roads</li><li>• Railroads</li><li>• Power Lines</li><li>• Communication Towers</li><li>• Other Vertical Structures</li><li>• Coal Bed Methane Ponds</li><li>• Meteorological Towers (e.g., wind energy testing)</li><li>• Nuclear Energy Facilities</li><li>• Airport Facilities and Infrastructure</li><li>• Military Range Facilities and Infrastructure</li><li>• Hydroelectric Plants</li><li>• Recreation Areas Facilities and infrastructure</li></ul> <p>This disturbance is measured by direct footprint or by ROW width for linear features (power lines, pipelines, and roads).</p>	<p>If the 3 percent anthropogenic disturbance cap is exceeded on lands (regardless of land ownership) within Greater Sage-Grouse PHMA (or IHMA in Idaho) habitat management areas in any given BSU, then no further discrete anthropogenic disturbances (subject to applicable laws and regulations, such as the General Mining Law of 1872, as amended, valid existing rights, etc.) will be permitted by BLM within Greater Sage-Grouse PHMA and IHMA in any given BSU until the disturbance has been reduced to less than the cap, as measured according to the Disturbance and Adaptive Management Appendix (Appendix E [of the 2015 Final EIS]) for the intermediate scale.</p> <p>For Idaho, the BSU (Figure 2-2) is defined as the currently mapped nesting and wintering habitat within PHMA and IHMA within a Conservation Area, inclusive of all ownerships. Anthropogenic disturbance excludes habitat disturbance from wildfire and fuels management activities and includes the following developments (see Appendix E [of the 2015 Final EIS] for further details):</p> <ul style="list-style-type: none"><li>• Oil and gas wells and development facilities</li><li>• Coal mines</li><li>• Wind towers</li><li>• Solar fields</li><li>• Geothermal development facilities</li><li>• Mining (active locatable, nonenergy leasable and salable developments)</li><li>• Roads</li><li>• Railroads</li><li>• Power lines</li><li>• Communication towers</li><li>• Other vertical structures</li><li>• Coal bed methane ponds</li><li>• Meteorological towers (e.g., wind energy testing)</li><li>• Nuclear energy facilities</li><li>• Airport facilities and infrastructure</li><li>• Military range facilities and infrastructure</li><li>• Hydroelectric plants</li><li>• Recreation area facilities and infrastructure</li></ul> <p>This disturbance is measured by direct footprint or by the distance between the outermost lines on transmission lines (Leu et al. 2008). <del>by ROW width for linear features (power lines, pipelines, and roads).</del></p>

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MD SSS 27 (cont.)	<p>For Idaho the BSU (Figure 2-2) is defined as the currently mapped nesting and wintering habitat within PHMA and IHMA within a Conservation Area, inclusive of all ownerships. For Montana the BSU is defined as the PHMA in Montana. Anthropogenic disturbance excludes habitat disturbance from wildfire and fuels management activities and includes the following developments (see Appendix E [of the 2015 Final EIS]for further details):</p> <ul style="list-style-type: none"><li>• Oil and Gas Wells and Development Facilities</li><li>• Coal Mines</li><li>• Wind Towers</li><li>• Solar Fields</li><li>• Geothermal Development Facilities</li><li>• Mining (Active Locatable, Non-Energy Leasable and Saleable Developments)</li><li>• Roads</li><li>• Railroads</li><li>• Power lines</li><li>• Communication Towers</li><li>• Other Vertical Structures</li><li>• Coal bed Methane Ponds</li><li>• Meteorological Towers (e.g., wind energy testing)</li><li>• Nuclear Energy Facilities</li><li>• Airport Facilities and Infrastructure</li><li>• Military Range Facilities and Infrastructure</li><li>• Hydroelectric Plants</li><li>• Recreation Areas Facilities and infrastructure</li></ul> <p>For Idaho this disturbance is measured by direct footprint or by ROW width for linear features (power lines, pipelines and roads). For Montana disturbance is measured similar to the Wyoming Disturbance Density Calculation Tool process described in Appendix E [of the 2015 Final EIS].</p> <p>Subject to applicable laws and regulations and valid existing rights, if the average density of one energy and mining facility per 640 acres (the density cap) is exceeded on all lands (regardless of land ownership) in the Priority Habitat Management Area within a proposed project analysis area, then no further disturbance from energy or mining facilities will be permitted by BLM: (1) until disturbance in the proposed project analysis area has been reduced to maintain the limit under the cap; or (2) unless the energy or mining facility is co-located into an existing disturbed area.</p>	(see above)	(see above)

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MD SSS 29	<p>New anthropogenic disturbances within PHMA (Idaho only): Anthropogenic Disturbance Screening Criteria. In order to avoid surface-disturbing activities in PHMA, priority will be given to development (including ROWs, fluid minerals and other mineral resources subject to applicable stipulations) outside of PHMA. When authorizing development in PHMA, priority will be given to development in non-habitat areas first and then in the least suitable habitat for Greater Sage-Grouse. In addition to the PHMA and IHMA Anthropogenic Disturbance Development Criteria (MD SSS 30), the following criteria must all be met in the project screening and assessment process:</p> <ul style="list-style-type: none"><li>a. The population trend for the Greater Sage-Grouse within the associated Conservation Area is stable or increasing over a 3-year period and the population levels are not currently engaging the adaptive management triggers (this applies strictly to new authorizations; renewals and amendments of existing authorizations will not be subject to this criteria when it can be shown that long-term impacts from those renewals or amendments will be substantially the same as the existing development);</li><li>b. The development with associated mitigation will not result in a net loss of Greater Sage-Grouse Key habitat and mitigation will provide a net conservation benefit to the respective PHMA;</li><li>c. The project and associated impacts will not result in a net loss of Greater Sage-Grouse Key habitat or habitat fragmentation or other impacts causing a decline in the population of the species within the relevant Conservation Area (the project will be outside Key habitat in areas not meeting desired habitat conditions or the project will provide a benefit to habitat areas that are functioning in a limited way as habitat);</li><li>d. The development cannot be reasonably accomplished outside of the PHMA; or can be either: 1) developed pursuant to a valid existing authorization; or 2) is co-located within the footprint of existing infrastructure (proposed actions will not increase the 2011 authorized footprint and associated impacts more than 50 percent, depending on industry practice).</li><li>e. Development will be implemented adhering to the required design features (RDF) described in Appendix C [of the 2015 Final EIS];</li><li>f. The project will not exceed the disturbance cap (MD SSS 27)</li><li>g. The project has been reviewed by the State Implementation Team and recommended for consideration by the Idaho Governor.</li></ul>	<p>Subject to valid existing rights, new anthropogenic disturbances within PHMA (Idaho only): Anthropogenic Disturbance Screening Criteria. In order to avoid surface-disturbing activities in PHMA, priority will be given to development (including ROWs, fluid minerals, and other mineral resources subject to applicable stipulations) outside of PHMA. When authorizing development in PHMA, priority will be given to development in non-habitat areas first and then in the least suitable habitat for Greater Sage-Grouse. In addition to the PHMA and IHMA Anthropogenic Disturbance Development Criteria (MD SSS 30), the following criteria must all be met in the project screening and assessment process:</p> <ul style="list-style-type: none"><li>a. The population trend for the Greater Sage-Grouse within the associated Conservation Area is stable or increasing over a 3-year period and the population levels are not currently engaging the adaptive management triggers (this applies strictly to new authorizations; renewals and amendments of existing authorizations will not be subject to this criteria when it can be shown that long-term impacts from those renewals or amendments will be substantially the same as the existing development);</li><li>b. The development with associated mitigation will not result in a net loss of Greater Sage-Grouse key habitat or of the respective PHMA;</li><li>c. The project and associated impacts will not result in a net loss of Greater Sage-Grouse key habitat or habitat fragmentation or other impacts causing a decline in the population of the species within the relevant Conservation Area.</li><li>d. The development cannot be reasonably accomplished outside of the PHMA; or can be either: 1) developed pursuant to a valid existing authorization; or 2) is collocated within the footprint of existing infrastructure (proposed actions will not increase the 2011 authorized footprint and associated impacts more than 50 percent, depending on industry practice).</li><li>e. Development will be implemented adhering to the required design features (RDF) described in Appendix C [of the 2015 Final EIS];</li><li>f. The project will not exceed the disturbance cap (MD SSS 27)</li><li>g. Large scale anthropogenic disturbances will be reviewed by the Technical and Policy Teams as described in MD SSS 44. Large Scale Anthropogenic disturbance includes highways, high voltage transmission lines, commercial wind projects, energy development (e.g., oil and gas development, geothermal wells), airports, mines, cell phone towers, landfills, residential, and commercial subdivisions, etc.</li></ul>	<p>Subject to valid existing rights, new anthropogenic disturbances within PHMA (Idaho only): Anthropogenic Disturbance Screening Criteria. In order to avoid surface-disturbing activities in PHMA, priority will be given to development (including ROWs, fluid minerals, and other mineral resources subject to applicable stipulations) outside of PHMA. When authorizing development in PHMA, priority will be given to development in non-habitat areas first and then in the least suitable habitat for Greater Sage-Grouse. In addition to the PHMA and IHMA Anthropogenic Disturbance Development Criteria (MD SSS 30), the following criteria must all be met in the project screening and assessment process:</p> <ul style="list-style-type: none"><li>a. The population trend for the Greater Sage-Grouse within the associated Conservation Area is stable or increasing over a 3-year period and the population levels are not currently engaging the adaptive management triggers (this applies strictly to new authorizations; renewals and amendments of existing authorizations will not be subject to this criteria when it can be shown that long-term impacts from those renewals or amendments will be substantially the same as the existing development).</li><li>b. The development with associated mitigation will not result in a net loss of Greater Sage-Grouse key habitat or of the respective PHMA.</li><li>c. The project and associated impacts will not result in a net loss of Greater Sage-Grouse key habitat or habitat fragmentation or other impacts causing a decline in the population of the species within the relevant Conservation Area.</li><li>d. The development cannot be reasonably accomplished outside of the PHMA; or can be either: 1) developed pursuant to a valid existing authorization; or 2) is collocated within the footprint of existing infrastructure (proposed actions will not increase the 2011 authorized footprint and associated impacts more than 50 percent, depending on industry practice).</li><li>e. Development will be implemented adhering to the required design features (RDF) described in Appendix C [of the 2015 Final EIS].</li><li>f. The project will not exceed the disturbance cap (MD SSS 27).</li><li>g. Large-scale anthropogenic disturbances in PHMA will be reviewed by the Technical and Policy Teams as described in MD SSS 44. (Large-scale anthropogenic disturbances is defined in the glossary.)</li></ul> <p><del>Large Scale Anthropogenic disturbance includes highways, high voltage transmission lines, commercial wind projects, energy development (e.g., oil and gas development, geothermal wells), airports, mines, cell phone towers, landfills, residential, and commercial subdivisions, etc.</del></p>
Modifying Lek Buffers			
MD SSS 35	<p>In undertaking BLM management actions, and consistent with valid and existing rights and applicable law in authorizing third-party actions, the BLM will apply the lek buffer-distances identified in the USGS Report Conservation Buffer Distance Estimates for Greater Sage-Grouse – A Review (Open File Report 2014-1239) in accordance with Appendix B [of the 2015 Final EIS].</p>	<p>In undertaking BLM management actions in PHMA and IHMA, and consistent with valid and existing rights and applicable law in authorizing third-party actions, the BLM will apply the lek buffer-distances identified in the USGS Report Conservation Buffer Distance Estimates for Greater Sage-Grouse – A Review (Open File Report 2014-1239) lek buffer-distances in accordance with Appendix B [of the 2015 Final EIS]. The buffers do not apply to vegetation treatments specifically designed to improve or protect Greater Sage-Grouse habitat.</p>	<p>In undertaking BLM management actions in PHMA, IHMA and GHMA, and consistent with valid and existing rights and applicable law in authorizing third-party actions, the BLM will apply the lek buffer-distances in accordance with Appendix B [of the 2015 Final EIS] (Buffers). The buffers do not apply to vegetation treatments specifically designed to improve or protect Greater Sage-Grouse habitat; however, impacts on leks should be analyzed and those impacts should be minimized to the extent practicable.</p>

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Including Waivers, Exceptions, and Modifications on NSO Stipulations			
MD MR 1	Idaho and Montana: Areas within SFA will be open to fluid mineral leasing and development and geophysical exploration subject to NSO without waiver, exception, or modification. Areas within PHMA (outside SFA) and IHMA will be open to mineral leasing and development and geophysical exploration subject to NSO with a limited exception (MD MR 3). GHMA will be open to mineral leasing and development and geophysical exploration subject to CSU which includes buffers and standard stipulations.	Areas within PHMA and IHMA will be open to mineral leasing and development and geophysical exploration subject to NSO with a limited exception (MD MR 3). GHMA will be open to mineral leasing and development and geophysical exploration subject to CSU which includes standard stipulations and best management practices as identified in Appendix C [of the 2015 Final EIS].	Areas within PHMA and IHMA will be open to mineral leasing and development and geophysical exploration subject to NSO with a limited exception (MD MR 3). GHMA will be open to mineral leasing and development and geophysical exploration subject to CSU which includes standard stipulations and best management practices as identified in Appendix C [of the 2015 Final EIS] (Required Design Features).
MD MR 2	In Idaho, parcels nominated for lease in PHMA or IHMA will be evaluated prior to lease offering to determine if development is feasible. In GHMA, parcels will not be offered for lease if buffers and restrictions (including RDFs) preclude development in the leasing area.	In Idaho, parcels nominated for lease in PHMA, IHMA, or GHMA will be evaluated prior to lease offering to determine if development is feasible.	In Idaho, parcels nominated for lease in PHMA, IHMA, or GHMA will be evaluated prior to lease offering to determine if development is feasible.
MD MR 3	<p>PHMA and IHMA: No waivers or modifications to a fluid mineral lease NSO stipulation will be granted. The Authorized Officer may grant an exception to a fluid mineral lease NSO stipulation only where the proposed action:</p> <ul style="list-style-type: none"><li>i. Would not have direct, indirect, or cumulative effects on Greater Sage-Grouse or its habitat; or,</li><li>ii. Is proposed to be undertaken as an alternative to a similar action occurring on a nearby parcel, and would provide a clear conservation gain to Greater Sage-Grouse.</li></ul> <p>Exceptions based on conservation gain (ii) may only be considered in (a) PHMAs of mixed ownership where federal minerals underlie less than fifty percent of the total surface, or (b) areas of the public lands where the proposed exception is an alternative to an action occurring on a nearby parcel subject to a valid Federal fluid mineral lease existing as of the date of this RMP amendment. Exceptions based on conservation gain must also include measures, such as enforceable institutional controls and buffers, sufficient to allow the BLM to conclude that such benefits will endure for the duration of the proposed action's impacts.</p> <p>Any exceptions to this lease stipulation may be approved by the Authorized Officer only with the concurrence of the State Director. The Authorized Officer may not grant an exception unless the applicable state wildlife agency, the USFWS, and the BLM unanimously find that the proposed action satisfies (i) or (ii). Such finding shall initially be made by a team of one field biologist or other Greater Sage-Grouse expert from each respective agency. In the event the initial finding is not unanimous, the finding may be elevated to the appropriate BLM State Director, USFWS State Ecological Services Director, and state wildlife agency head for final resolution. In the event their finding is not unanimous, the exception will not be granted. Approved exceptions will be made publicly available at least quarterly.</p>	<p>PHMA and IHMA: No waivers or modifications to a fluid mineral lease NSO stipulation will be granted. The Authorized Officer may grant an exception to a fluid mineral lease NSO stipulation only where the proposed action:</p> <ul style="list-style-type: none"><li>i. Would not have direct, indirect, or cumulative effects on Greater Sage-Grouse or its habitat; or,</li><li>ii. Is proposed to be undertaken as an alternative to a similar action occurring on a nearby parcel, and would provide no net loss to Greater Sage-Grouse.</li></ul> <p>Exceptions based on no net loss (ii) may only be considered in (a) PHMA of mixed ownership where federal minerals underlie less than fifty percent of the total surface, or (b) areas of the public lands where the proposed exception is an alternative to an action occurring on a nearby parcel subject to a valid Federal fluid mineral lease existing as of the date of this RMP amendment. Exceptions based on no net loss must also include measures, such as enforceable institutional controls and buffers, sufficient to allow the BLM to conclude that such benefits will endure for the duration of the proposed action's impacts.</p> <p>Any exceptions to this lease stipulation may be approved by the Authorized Officer, only with the concurrence of the State Director and in coordination with the Technical and Policy Team. Approved exceptions will be made publicly available.</p>	<p>PHMA and IHMA: No waivers or modifications to a fluid mineral lease NSO stipulation will be granted. The BLM Authorized Officer may grant an exception to a fluid mineral lease NSO stipulation only where the proposed action:</p> <ul style="list-style-type: none"><li>i. Would not have direct, indirect, or cumulative effects on Greater Sage-Grouse or its habitat; or,</li><li>ii. Is proposed to be undertaken as an alternative to a similar action occurring on a nearby parcel, and would provide no net loss to Greater Sage-Grouse.</li></ul> <p>Exceptions based on no net loss (ii) may only be considered in (a) PHMA of mixed ownership where federal minerals underlie less than fifty percent of the total surface, or (b) areas of the public lands where the proposed exception is an alternative to an action occurring on a nearby parcel subject to a valid Federal fluid mineral lease existing as of the date of this RMP amendment. Exceptions based on no net loss must also include measures, such as enforceable institutional controls and buffers, sufficient to allow the BLM to conclude that such benefits will endure for the duration of the proposed action's impacts.</p> <p>Any exceptions to this lease stipulation may be approved by the BLM Authorized Officer, only with the concurrence of the State Director and in coordination with the Technical and Policy Team. Approved exceptions will be made publicly available.</p>
MD MR 8	Issue Written Orders of the Authorized Officer (43 CFR 3161.2) requiring reasonable protective measures consistent with the lease terms where necessary to avoid or minimize impacts on Greater Sage-Grouse populations or habitat.	Delete MD MR 8	<del>Delete MD MR 8</del> Issue Written Orders of the BLM Authorized Officer (43 CFR 3161.2) requiring reasonable protective measures consistent with the lease terms where necessary to avoid or minimize impacts on Greater Sage-Grouse populations or habitat.

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Changing Requirements for Design Features			
MD SSS 32	Incorporate RDFs as described in Appendix C [of the 2015 Final EIS] in the development of project or proposal implementation, reauthorizations or new authorizations and suppression activities, as conditions of approval (COAs) into any post-lease activities and as best management practices for locatable minerals activities, to the extent allowable by law, unless at least one of the following conditions can be demonstrated and documented in the NEPA analysis associated with the specific project: a. A specific RDF is not applicable to the site-specific conditions of the project or activity; b. A proposed design feature or BMP is determined to provide equal or better protection for Greater Sage-Grouse or its habitat; or c. Analysis concludes that following a specific RDF will provide no more protection to Greater Sage-Grouse or its habitat than not following it, for the project being proposed.	<p>In PHMA and IHMA, incorporate RDFs as described in Appendix C [of the 2015 Final EIS] in the development of project or proposal implementation, reauthorizations or new authorizations and suppression activities, as conditions of approval (COAs) into any post-lease activities and as best management practices for locatable minerals activities, to the extent allowable by law, unless at least one of the following conditions can be demonstrated and documented in the NEPA analysis associated with the specific project: a. A specific RDF is not applicable to the site-specific conditions of the project or activity; b. A proposed design feature or BMP is determined to provide equal or better protection for Greater Sage-Grouse or its habitat; or c. Analysis concludes that following a specific RDF will provide no more protection to Greater Sage-Grouse or its habitat than not following it, for the project being proposed.</p> <p>In GHMA, incorporate RDFs as best management practices in the development of project or proposal implementation, reauthorizations or new authorizations, suppression activities, post-lease activities, and locatable minerals activities.</p>	<p>In PHMA and IHMA, incorporate RDFs as described in Appendix C [of the 2015 Final EIS] in the development of project or proposal implementation, reauthorizations or new authorizations <del>and suppression activities</del>, as conditions of approval (COAs) into any post-lease activities and as best management practices for locatable minerals activities, to the extent allowable by law, unless at least one of the following conditions can be demonstrated and documented in the NEPA analysis associated with the specific project: a. A specific RDF is not applicable to the site-specific conditions of the project or activity; b. A proposed design feature or BMP is determined to provide equal or better protection for Greater Sage-Grouse or its habitat; or c. Analysis concludes that following a specific RDF will provide no more protection to Greater Sage-Grouse or its habitat than not following it, for the project being proposed.</p> <p>In GHMA, the RDFs are considered best management practices (BMPs) that should be considered and applied unless the proponent can show that applying the BMP is technically or economically impracticable. <del>incorporate RDFs as best management practices in the development of project or proposal implementation, reauthorizations or new authorizations, suppression activities, post-lease activities, and locatable minerals activities.</del></p>
MD MR 11	<p>PHMA: PHMA are closed to new mineral materials sales. However, these areas remain “open” to free use permits and the expansion of existing active pits only if the following criteria are met:</p> <ul style="list-style-type: none"><li>the project area disturbance cap is not exceeded within a BSU;</li><li>the activity is subject to the provisions set forth in the mitigation framework [Appendix F [of the 2015 Final EIS]];</li><li>all applicable required design features are applied; and</li><li>the activity is permissible under the Idaho exception and development criteria (MD SSS 29 and MD SSS 30)</li></ul> <p>IHMA: All IHMA will be open to mineral materials development, consistent with the Idaho Anthropogenic Disturbance Criteria (MD SSS 30), and subject to RDFs, and buffers. Sales from existing community pits within IHMA will be subject to seasonal timing restrictions (Appendix C [of the 2015 Final EIS]).</p> <p>GHMA: All GHMA will be open to mineral materials development, subject to RDFs and buffers. Sales from existing community pits within GHMA will be subject to seasonal timing restrictions (Appendix C [of the 2015 Final EIS]).</p>	<p>PHMA: All PHMA will be closed to new mineral materials development, but continued use of existing pits will be allowed. New free use permits and the expansion of existing pits may be considered only if the following criteria are met:</p> <ul style="list-style-type: none"><li>The disturbance cap is not exceeded within a BSU.</li><li>The activity is subject to the provisions set forth in the mitigation framework (Appendix F [of the 2015 Final EIS]).</li><li>All applicable required design features are applied.</li><li>The activity is permissible under the Idaho exception and development criteria (MD SSS 29 and MD SSS 30).</li></ul> <p>IHMA: All IHMA will be open to mineral materials development, consistent with the Idaho Anthropogenic Disturbance Criteria (MD SSS 30), and subject to RDFs and buffers. Sales from existing community pits within IHMA will be subject to seasonal timing restrictions (Appendix C [of the 2015 Final EIS]).</p> <p>GHMA: All GHMA will be open to mineral materials development, subject to best management practices as described in Appendix C. Sales from existing community pits within GHMA will be subject to seasonal timing restrictions (Appendix C [of the 2015 Final EIS]).</p>	<p>PHMA: All PHMA will be closed to new mineral materials development, but continued use of existing pits will be allowed. New free use permits and the expansion of existing pits may be considered only if the following criteria are met:</p> <ul style="list-style-type: none"><li>The disturbance cap is not exceeded within a BSU</li><li>The activity is subject to the provisions set forth in the mitigation framework (Appendix F [of the 2015 Final EIS])</li><li>All applicable required design features are applied</li><li>The activity is permissible under the Idaho exception and development criteria (MD SSS 29 and MD SSS 30)</li></ul> <p>IHMA—All IHMA will be open to mineral materials development, consistent with the Idaho Anthropogenic Disturbance Criteria (MD SSS 30), and subject to RDFs and buffers. <del>Sales from existing community pits within IHMA will be subject to seasonal timing restrictions (Appendix C)</del></p> <p>GHMA—All GHMA will be open to mineral materials development, subject to best management practices, as described in Appendix C [of the 2015 Final EIS]. <del>Sales from existing community pits within GHMA will be subject to seasonal timing restrictions (Appendix C).</del></p>

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MD MR 15	<p>PHMA are closed to leasing. IHMA and GHMA: Areas within Known Phosphate Leasing Areas (KPLAs) will remain open to leasing subject to standard stipulations. IHMA areas outside of KPLAs are open to prospecting and subsequent leasing provided the Anthropogenic Disturbance Development Criteria (MD SSS 30) and the anthropogenic disturbance cap (MD SSS 27) can be met.</p> <p>RDFs and buffers shall be applied to prospecting permits.</p> <p>GHMA: Lands outside KPLAs are available for prospecting and subsequent leasing and initial mine development subject to RDFs, buffers, and standard stipulations.</p>	<p>PHMA are closed to leasing. IHMA and GHMA: Areas within Known Phosphate Leasing Areas (KPLAs) will remain open to leasing subject to standard stipulations. IHMA areas outside of KPLAs are open to prospecting and subsequent leasing provided the Anthropogenic Disturbance Development Criteria (MD SSS 30) and the anthropogenic disturbance cap (MD SSS 27) can be met.</p> <p>RDFs and buffers shall be applied to prospecting permits.</p> <p>GHMA: Lands outside KPLAs are available for prospecting and subsequent leasing and initial mine development subject to standard stipulations and best management practices as described in Appendix C [of the 2015 Final EIS].</p>	<p>PHMA are closed to leasing. IHMA and GHMA: Areas within Known Phosphate Leasing Areas (KPLAs) will remain open to leasing subject to standard stipulations. IHMA areas outside of KPLAs are open to prospecting and subsequent leasing provided the Anthropogenic Disturbance Development Criteria (MD SSS 30) and the anthropogenic disturbance cap (MD SSS 27) can be met.</p> <p>RDFs and buffers shall be applied to prospecting permits.</p> <p>GHMA: Lands outside KPLAs are available for prospecting and subsequent leasing and initial mine development subject to standard stipulations and best management practices as described in Appendix C [of the 2015 Final EIS].</p>
MD RE 1	<p>PHMA: Designate and manage PHMA as exclusion areas for utility scale (20 MW) wind and solar testing and development, nuclear and hydropower energy development. IHMA: Designate and manage IHMA as avoidance areas for wind and solar testing and development, nuclear and hydropower development. GHMA (Idaho): Designate and manage GHMA as open for wind and solar testing and development and nuclear and hydropower development subject to RDFs and buffers. GHMA (Montana): Designate and manage GHMA as avoidance for wind and solar testing and development and nuclear and hydropower development.</p>	<p>PHMA: Designate and manage PHMA as exclusion areas for utility scale (20 MW) wind and solar testing and development, and nuclear and hydropower energy development. IHMA: Designate and manage IHMA as avoidance areas for wind and solar testing and development, and nuclear and hydropower development. GHMA (Idaho): Designate and manage GHMA as open for wind and solar testing and development, and nuclear and hydropower development.</p>	<p>PHMA: Designate and manage PHMA as exclusion areas for utility scale (20 MW) wind and solar testing and development, and nuclear and hydropower energy development. IHMA: Designate and manage IHMA as avoidance areas for wind and solar testing and development, and nuclear and hydropower development. GHMA (Idaho): Designate and manage GHMA as open for wind and solar testing and development, and nuclear and hydropower development.</p>
MD LR 2	<p>PHMA: Designate and manage PHMA as ROW avoidance areas, consistent with MD SSS 29 and subject to RDFs and buffers (Appendices B and C). IHMA: Designate and manage IHMA as ROW avoidance areas, consistent with MD SSS 30 and subject to RDFs and buffers. GHMA (Idaho and Montana): Designate and manage GHMA as open with proposals subject to RDFs and buffers.</p>	<p>PHMA: Designate and manage PHMA as ROW avoidance areas, consistent with MD SSS 29 and subject to RDFs and buffers (Appendices B and C). IHMA: Designate and manage IHMA as ROW avoidance areas, consistent with MD SSS 30 and subject to RDFs and buffers. GHMA: Designate and manage GHMA as open with proposals subject to best management practices as described in Appendix C [of the 2015 Final EIS].</p>	<p>PHMA: Designate and manage PHMA as ROW avoidance areas, consistent with MD SSS 29 and subject to RDFs and buffers (Appendices B and C). IHMA: Designate and manage IHMA as ROW avoidance areas, consistent with MD SSS 30 and subject to RDFs and buffers. GHMA: Designate and manage GHMA as open with proposals subject to best management practices as described in Appendix C [of the 2015 Final EIS].</p>

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Modifying Habitat Objectives			
SSS OBJ 2	<p>The Habitat Objectives for Greater Sage-Grouse (the Habitat Objectives table (Table 2-2) [in the 2015 Final EIS]) is a list of indicators, characteristics, and values that describe Greater Sage-Grouse seasonal habitat use areas. The BLM used indicator values derived from a synthesis of local and regional Greater Sage-Grouse habitat research and data to describe the typical vegetation communities that Greater Sage-Grouse select. While the habitat objectives are not attainable on every site or every acre within designated Greater Sage-Grouse habitat management areas, the values reflect a range of habitat conditions that generally lead to greater survival of individuals within a population. When permitting land use activities, BLM should consider the ecological site potential within designated habitat management areas to validate the habitat conditions achievable for a specific site.</p> <p>The seasonal habitat descriptions in Table 2-2 [the Habitat Objectives table in the 2015 Final EIS] vary across the range of Greater Sage-Grouse, within a subregion, and between sites. They are not land health standards but are quantitative measures that inform the Special Status Species Habitat Land Health Standard for Greater Sage-Grouse. These measurable values reflect ecological potential, and may be adjusted based on local factors influencing Greater Sage-Grouse habitat selection. Local data or recent science may indicate that Greater Sage-Grouse select for vegetation structure and composition in seasonal habitats not characterized by the values in the habitat objectives table. In these cases, it may be appropriate to adjust the values. Habitat objectives should be evaluated in the context of annual variability in ecological conditions and should not be used singly to determine habitat suitability for Greater Sage-Grouse. They may be used to demonstrate trends over time, during plan evaluations for effectiveness of Greater Sage-Grouse conservation, or when identifying limiting habitat characteristics for a given area.</p> <p>The indicators, characteristics, values, and desired seasonal habitat conditions in the Greater Sage-Grouse Plan Habitat Objectives Table are meant to inform the wildlife habitat component of the Land Health Standards evaluation process (LHS, 43 CFR 4180.2), but do not replace rangeland health assessments. Results from the LHS evaluation should be used to support BLM in land use authorization processes and during development of objectives for management actions such as vegetation treatments. BLM land use authorizations will contain terms and conditions regarding the actions needed to achieve or make progress toward achieving habitat objectives and land health standards.</p>	<p>Within PHMA and IHMA, maintain large intact sagebrush steppe communities with vegetative characteristics consistent with their ecological potential such that Greater Sage-Grouse can select suitable seasonal habitats for breeding, nesting, rearing young, and wintering.</p> <p>Greater Sage-Grouse actively select suitable use areas within large intact sagebrush ecosystems. Not every site will provide for every Greater Sage-Grouse need, which is why they require large intact sagebrush ecosystems.</p> <p>The habitat objectives for Greater Sage-Grouse (the Habitat Objectives table (Table 2-2) [in the 2015 Final EIS]) are a list of indicators, characteristics, and values that describe Greater Sage-Grouse seasonal habitat use areas. The BLM used indicator values derived from a synthesis of local and regional Greater Sage-Grouse habitat research and data to describe the typical vegetation communities that Greater Sage-Grouse select. While the habitat objectives are not attainable on every site or every acre within designated Greater Sage-Grouse habitat management areas, the values reflect a range of habitat conditions that generally lead to greater survival of individuals within a population. When permitting land use activities, the BLM shall consider the ecological site potential within designated habitat management areas to validate the habitat conditions achievable for a specific site.</p> <p>The seasonal habitat descriptions in Table 2-2 [the Habitat Objectives table in the 2015 Final EIS] vary across the range of Greater Sage-Grouse, within a subregion, and between sites. They are not land health standards but are quantitative measures that help inform the Special Status Species Habitat Land Health Standard for Greater Sage-Grouse. These measurable values reflect ecological potential, and may be adjusted based on local factors influencing Greater Sage-Grouse habitat selection. Local data or recent science may indicate that Greater Sage-Grouse select for vegetation structure and composition in seasonal habitats not characterized by the values in the habitat objectives table. In these cases, it may be appropriate to adjust the values. Habitat objectives should be evaluated in the context of annual variability in ecological conditions and should not be used singly to determine habitat suitability for Greater Sage-Grouse. They may be used to demonstrate trends over time, during plan evaluations for effectiveness of Greater Sage-Grouse conservation, or when identifying limiting habitat characteristics for a given area.</p> <p>The indicators, characteristics, values, and desired seasonal habitat conditions in the Greater Sage-Grouse Plan Habitat Objectives Table are meant to inform the wildlife habitat component of the Land Health Standards evaluation process (LHS, 43 CFR 4180.2), but do not replace rangeland health assessments. Results from the LHS evaluation should be used to support the BLM in land use authorization processes and during development of appropriate objectives for management actions such as</p>	<p>Within PHMA and IHMA, maintain large intact sagebrush steppe communities with vegetative characteristics consistent with their ecological potential such that Greater Sage-Grouse can select suitable seasonal habitats for breeding, nesting, rearing young, and wintering.</p> <p>Greater Sage-Grouse actively select suitable use areas within large intact sagebrush ecosystems. Not every site will provide for every Greater Sage-Grouse need, which is why they require large intact sagebrush ecosystems.</p> <p>The desired conditions for Greater Sage-Grouse (the Desired Conditions table (Table 2-2) [in the 2015 Final EIS]) are a list of indicators, characteristics, and values that describe Greater Sage-Grouse seasonal habitat use areas. The BLM used indicator values derived from a synthesis of local and regional Greater Sage-Grouse habitat research and data to describe the typical vegetation communities that Greater Sage-Grouse select. While the desired conditions are not attainable on every site or every acre within designated Greater Sage-Grouse habitat management areas, the values reflect a range of habitat conditions that generally lead to greater survival of individuals within a population. When permitting land use activities, the BLM shall consider the ecological site potential within designated habitat management areas to validate the habitat conditions achievable for a specific site.</p> <p>The seasonal habitat descriptions in Table 2-2 [the Desired Conditions table in the 2015 Final EIS] vary across the range of Greater Sage-Grouse, within a sub-region, and between sites. They are not land health standards but are quantitative measures that help inform the Special Status Species Habitat Land Health Standard for Greater Sage-Grouse. These measurable values reflect ecological potential, and may be adjusted based on local factors influencing Greater Sage-Grouse habitat selection. Local data or recent science may indicate that Greater Sage-Grouse select for vegetation structure and composition in seasonal habitats not characterized by the values in the desired conditions table. In these cases, it may be appropriate to adjust the values. Desired Conditions should be evaluated in the context of annual variability in ecological conditions and should not be used singly to determine habitat suitability for Greater Sage-Grouse. As appropriate, they may be used to demonstrate trends over time, during plan evaluations for effectiveness of Greater Sage-Grouse conservation, or when identifying limiting habitat characteristics for a given area.</p> <p>The indicators, characteristics, values, and desired seasonal habitat conditions in the Greater Sage-Grouse Plan Desired Conditions Table are meant to inform the wildlife habitat component of the Land Health Standards evaluation process (LHS, 43 CFR 4180.2), but do not replace rangeland health assessments. Results from the LHS evaluation should be used to support the BLM in land use authorization processes</p>

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Rangeland Health Standards Handbook H-4180-1. <a href="https://www.blm.gov/sites/blm.gov/files/uploads/MediaLibraryBLMPolicyh4180-1.pdf">https://www.blm.gov/sites/blm.gov/files/uploads/MediaLibraryBLMPolicyh4180-1.pdf</a>.</p> <p>(The Habitat Objectives table (Table 2-2) is in the 2015 ROD/ARMPA, Section 2.2.1 Page 2-5 through 2-6)</p>	NESTING/EARLY BROOD REARING (Seasonal Use Period May 1–June 30)				Cover and Food	Perennial grass (and forb) height (includes residual grasses)	≥ 7 inches	Connelly et al. 2000 <sup>8</sup> Connelly et al. 2003 <sup>9</sup> Hagen et al. 2007 <sup>11</sup> Stiver et al. 2015 <sup>13</sup>	<p>vegetation treatments. 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Rangeland Health Standards Handbook H-4180-1. <a href="https://www.blm.gov/sites/blm.gov/files/uploads/MediaLibraryBLMPolicyh4180-1.pdf">https://www.blm.gov/sites/blm.gov/files/uploads/MediaLibraryBLMPolicyh4180-1.pdf</a>.</p>	NESTING/EARLY BROOD REARING (Seasonal Use Period May 1–June 30)				Cover and Food	Perennial grass (and forb) height (includes residual grasses)	Adequate Residual Nesting Cover	Connelly et al. 2000 <sup>8</sup> Connelly et al. 2003 <sup>9</sup> Hagen et al. 2007 <sup>11</sup> Stiver et al. 2015 <sup>13</sup> Hausleitner 2003; Holloran et al. 2005	<p>and during development of appropriate objectives for management actions such as vegetation treatments.</p> <p>The Desired Conditions Tables are to be used:</p> <ul style="list-style-type: none"><li>To assess habitat suitability for Greater Sage-Grouse following the BLM policy on Greater Sage-Grouse habitat assessments at the appropriate scale</li><li>To describe desired conditions that provide habitat at multiple spatial scales as defined by the best available science</li><li>To evaluate land use plan effectiveness for Greater Sage-Grouse conservation</li><li>As a basis to develop measurable project objectives for actions in BLM-designated Greater Sage-Grouse habitat management areas as needed when considered alongside land health standards, ecological potential, and local information</li></ul> <p>Excerpt from Table 2.2 [in the 2015 Final EIS]</p> <table><tr><th colspan="4">NESTING/EARLY BROOD-REARING (Seasonal Use Period May 1–June 30)</th></tr><tr><td>Cover and Food</td><td>Perennial grass (and forb) height (includes residual grasses)</td><td>Adequate Residual Nesting Cover</td><td>Connelly et al. 2000<sup>8</sup> Connelly et al. 2003<sup>9</sup> Hagen et al. 2007<sup>11</sup> Stiver et al. 2015<sup>13</sup> Hausleitner 2005; Holloran et al. 2005 Gibson et al 2016 Smith et al 2017 Smith et al 2018</td></tr></table> <p>References: US Department of the Interior, Bureau of Land Management. 2001. 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NESTING/EARLY BROOD-REARING (Seasonal Use Period May 1–June 30)																											
Cover and Food	Perennial grass (and forb) height (includes residual grasses)	Adequate Residual Nesting Cover	Connelly et al. 2000 <sup>8</sup> Connelly et al. 2003 <sup>9</sup> Hagen et al. 2007 <sup>11</sup> Stiver et al. 2015 <sup>13</sup> Hausleitner 2005; Holloran et al. 2005 Gibson et al 2016 Smith et al 2017 Smith et al 2018																								
VEG OBJ 3	<p>In all SFA and PHMA, the desired condition is to maintain all lands ecologically capable of producing sagebrush (but no less than 70%) with a minimum of 15% sagebrush canopy cover or as consistent with specific ecological site conditions. The attributes necessary to sustain these habitats are described in Interpreting Indicators of Rangeland Health (BLM Tech Ref 1734-6).</p>	<p>Delete VEG OBJ 3</p>	<p>Delete VEG OBJ 3 - Redundant to OBJ SSS 1 which states: (Maintain or make progress toward all lands within PHMA and IHMA (at least 70%) capable of producing sagebrush so there is a minimum of 15 percent sagebrush cover and conifers absent to uncommon within 1.86 miles of occupied leks.)</p>																								



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Modifying Decisions for Livestock Grazing Commensurate with the Threat Posed			
MD LG 15	The BLM will prioritize (1) the review of grazing permits/leases, in particular to determine if modification is necessary prior to renewal, and (2) the processing of grazing permits/leases in Sagebrush Focal Areas (SFA) followed by PHMA outside of the SFA. In setting workload priorities, precedence will be given to existing permits/leases in these areas not meeting Land Health Standards, with focus on those containing riparian areas, including wet meadows. Management and conservation action prioritization will occur at the Conservation Area (CA) scale and be based on Greater Sage-Grouse population and habitat trends: Focusing management and conservation actions first in SFA followed by areas of PHMA outside SFA. The BLM may use other criteria for prioritization to respond to urgent natural resource concerns (e.g., fire) and legal obligations.	Generally, the BLM will prioritize (1) the review of grazing permits/leases, in particular to determine if modification is necessary prior to renewal, and (2) the processing of grazing permits/leases based on land health conditions or concerns. If similar issues are found in both PHMA and IHMA, than those in PHMA should be addressed first followed by those in IHMA. In setting workload priorities, precedence will be given to existing permits/leases in these areas not meeting Land Health Standards, with focus on those containing riparian areas, including wet meadows. The BLM may use other criteria for prioritization to respond to urgent natural resource concerns (e.g., fire) and legal obligations.	Generally, the BLM will prioritize (1) the review of grazing permits/leases, in particular to determine if modification is necessary prior to renewal, and (2) the processing of grazing permits/leases based on land health conditions or concerns related to rangeland health standards. If similar issues are found in both PHMA and IHMA, then those in PHMA should be addressed first followed by those in IHMA. In setting workload priorities, precedence will be given to existing permits/leases in these areas not meeting Land Health Standards and that have declining Greater Sage-Grouse populations, defined by a soft or hard population adaptive management trigger being engaged. Sage-grouse populations that are stable or trending upward will be a lower priority for permit renewal and the assessment process. <del>with focus on those containing riparian areas, including wet meadows.</del> The BLM may use other criteria for prioritization to respond to urgent natural resource concerns (e.g., fire) and legal obligations.
MD LG 16	The NEPA analysis for renewals and modifications of livestock grazing permits/leases that include lands within SFA and PHMA will include specific management thresholds, based on Greater Sage-Grouse Habitat Objectives Table, Land Health Standards (43 CFR 4180.2) and ecological site potential, and one or more defined responses that will allow the authorizing officer to make adjustments to livestock grazing that have already been subjected to NEPA analysis.	<p>Grazing within the CHZ and IHZ will be managed according to the process outlined in the text below.</p> <p>a. Incorporate the Greater Sage-Grouse habitat characteristics in Table 3-5 [in the 2015 Final EIS] and management considerations into relevant resource management plans as desired conditions recognizing that these conditions may not be achievable (1) due to the existing ecological condition, ecological potential, or existing vegetation; or (2) due to casual events unrelated to existing livestock grazing.</p> <p>b. Prioritize permit renewal and the land health assessments outlined in (iii)(c) in allotments with declining Greater Sage-Grouse populations.</p> <p>c. Conduct fine- and site-scale habitat assessments and, where appropriate, a determination of factors causing any failure to achieve the habitat characteristics in Tables 3-5. The assessment(s) shall be conducted at a resolution sufficient to document the habitat condition and will include local spatial and inter-annual variability. Any determination relative to the habitat characteristics (Tables 3-5) shall be based upon existing ecological condition, ecological potential, and existing vegetation information to ensure the assessment recognizes whether or not these habitat characteristics are achievable.</p> <p>d. The assessment will rely on published characteristics of Greater Sage-Grouse habitat and the Ecological Site Descriptions, and Tables 3-5, and where available and applicable, rangeland health determinations made in accordance with 43 CFR 4180.2(c).</p> <p>e. After conducting the assessment in (iii)(c), if the current grazing system achieves the habitat characteristics (Tables 3-5), absent substantial and compelling information no further grazing management changes are necessary.</p> <p>f. If the process and conditions outlined in (iii)(c) demonstrate that livestock grazing is limiting achievement of the habitat characteristics (Tables 3-5), renewed permits will include measures, including but not limited to the actions outlined in Appendix C [of the 2015 Final EIS], Grazing Section of BMPs to achieve desired habitat conditions. These measures must be tailored to address the specific management issues.</p> <p>g. Adaptive management changes related to existing grazing permits should only be undertaken where improper grazing is determined to be the casual factor in not meeting habitat characteristics, specific to site capability, based upon monitoring over with appropriate spatial variability.</p>	<p>Grazing within the PHMA and IHMA will be managed according to the process outlined in the text below and the grazing permit renewal process will be managed according to 43 CFR Part 4100, Subpart 4180 and as outlined in the process below.</p> <p>a. Incorporate the Greater Sage-Grouse <del>habitat characteristics</del> desired conditions in Table 2.2 [in the 2015 Final EIS] and management considerations <del>into relevant resource management plans</del> as desired conditions and manage livestock grazing recognizing that these conditions may not be achievable (1) due to the existing ecological condition, ecological potential, or existing vegetation; or (2) due to casual events unrelated to existing livestock grazing; and 3) that they are not intended to be prescriptive at the allotment level.</p> <p><del>b. Prioritize permit renewal and the land health assessments outlined in (iii)(c) in allotments with declining Greater Sage-Grouse populations.</del> (Addressed above in MD LG 15)</p> <p>b. Conduct <del>fine and site-scale</del> habitat assessments using appropriate monitoring methods <del>and</del>, where appropriate, a make a determination of factors causing any failure to achieve the desired conditions in Tables 2.2. The assessment(s) shall be conducted at a resolution and scale sufficient to document the habitat condition and will include local, spatial and inter-annual variability. Any determination relative to the habitat characteristics (Tables 2.2) shall be based upon existing ecological condition, ecological potential, and existing vegetation information to ensure the assessment recognizes whether or not these habitat characteristics are achievable.</p> <p>c. The assessment will rely on published characteristics of Greater Sage-Grouse habitat and the Ecological Site Descriptions, and Tables 2.2, and where available and applicable, rangeland health determinations made in accordance with 43 CFR 4180.2(c).</p> <p>d. After conducting the assessment in (b), if the current grazing system achieves applicable Idaho rangeland health standards <del>the habitat characteristics (Tables 3-5)</del>, absent substantial and compelling information no further grazing management changes are necessary to achieve desired conditions for Greater Sage-Grouse habitat.</p> <p>e. If the process and conditions outlined in (b) demonstrate that livestock grazing is limiting achievement of the desired conditions (Tables 2.2), renewed permits will include measures, including but not limited to the actions outlined in Appendix C [of the 2015 Final EIS], Grazing Section of BMPs to achieve desired habitat conditions. These measures must be tailored to address the specific management issues.</p>

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MD LG 16 (cont.)	(see above)	h. Where management changes are needed and necessary pursuant to (f), implement management actions that are narrowly tailored to address the specific habitat objective applied at the allotment and/or activity plan level, including but not limited to the actions outlined in Appendix C [of the 2015 Final EIS], Grazing Section of BMPs. (The Governor's Plan is attached as Appendix I [of the 2015 Final EIS] for references to this section.)	f. Adaptive management changes related to existing grazing permits should only be undertaken where improper grazing is determined to be the casual factor in not meeting habitat characteristics, specific to site capability, based upon monitoring over with appropriate spatial variability. See Appendix C [of the 2015 Final EIS] (Required Design Features). g. Where management changes are needed and necessary pursuant to (f), implement management actions that are narrowly tailored to address the specific habitat objective applied at the allotment and/or activity plan level, including but not limited to the actions outlined in Appendix C [of the 2015 Final EIS], Grazing Section of BMPs. (The Governor's Plan is attached as Appendix I [of the 2015 Final EIS] for references to this section.)
MD LG 17	Allotments within SFA, followed by those within PHMA, and focusing on those containing riparian areas, including wet meadows, will be prioritized for field checks to help ensure compliance with the terms and conditions of the grazing permits. Field checks can include monitoring for actual use, utilization, and use supervision. Management and conservation action prioritization will occur at the Conservation Area scale and be based on Greater Sage-Grouse population and habitat trends: Focusing management and conservation actions first in SFA followed by areas of PHMA outside SFA.	Allotments within PHMA, and focusing on those with land health concerns, especially those containing riparian areas, including wet meadows, will be prioritized for field checks to help ensure compliance with the terms and conditions of the grazing permits. Field checks can include monitoring for actual use, utilization, and use supervision.	Allotments within PHMA, focusing on those with declining Greater Sage-Grouse populations, defined by a soft or hard adaptive management trigger being engaged and/or with land health concerns, <del>especially those containing riparian areas, including wet meadows,</del> will be prioritized for field checks to help ensure compliance with the terms and conditions of the grazing permits. Field checks can include monitoring for actual use, utilization, and use supervision.
MD WHB 2	Complete rangeland health assessments for HMAs containing Greater Sage-Grouse habitat using an interdisciplinary team of specialists (e.g. range, wildlife, riparian). The priorities for conducting assessments are 1) HMAs Containing SFA; 2) HMAs containing PHMA; 3) HMAs containing IHMA; 4) HMAs containing GHMA; 5) HMAs containing sagebrush habitat outside of PHMA, IHMA, and GHMA mapped habitat; 6) HMAs without Greater Sage-Grouse Habitat.	Complete rangeland health assessments for HMAs containing Greater Sage-Grouse habitat using an interdisciplinary team of specialists (e.g. range, wildlife, and riparian). The priority for conducting assessments is HMAs with known land health issues and where local populations of Greater Sage-Grouse are in decline. When similar issues are found in multiple HMAs, then the priority should be 1) HMAs containing PHMA; 2) HMAs containing IHMA; 3) HMAs containing GHMA; 4) HMAs containing Greater Sage-Grouse habitat outside of PHMA, IHMA, and GHMA mapped habitat; 5) HMAs without Greater Sage-Grouse Habitat.	Complete rangeland health assessments for HMA containing Greater Sage-Grouse habitat using an interdisciplinary team of specialists (e.g. range, wildlife, and riparian). The priority for conducting assessments is HMA with known land health issues and where local populations of Greater Sage-Grouse are in decline according to the adaptive management trigger standards. When similar issues are found in multiple HMA, then the priority should be 1) HMA containing PHMA; 2) HMA containing IHMA; 3) HMA containing GHMA; 4) HMA containing Greater Sage-Grouse habitat outside of PHMA, IHMA, and GHMA mapped habitat; 5) HMA without Greater Sage-Grouse Habitat.
<b>Modifying the Mitigation Strategy to Align with the State Mitigation Strategy</b>			
MD MT 3	In all Greater Sage-Grouse habitat, in undertaking BLM management actions, and, consistent with valid existing rights and applicable law, in authorizing third-party actions that result in habitat loss and degradation (Appendix E, Table E-1 [in the 2015 Final EIS]), the BLM will require and ensure mitigation that provides a net conservation gain to the species including accounting for any uncertainty associated with the effectiveness of such mitigation. This will be achieved by avoiding, minimizing, and compensating for impacts by applying beneficial mitigation actions.	In PHMA and IHMA, in undertaking BLM management actions, and, consistent with valid existing right and applicable law, in authorizing third-party actions that result in habitat loss and degradation (Appendix E, Table E-1 [in the 2015 Final EIS]), the BLM will require and ensure mitigation that provides no net loss to the species including accounting for any uncertainty associated with the effectiveness of such mitigation. This will be achieved by avoiding, minimizing, and compensating for impacts by applying beneficial mitigation actions. In GHMA, proponents will be required to avoid and minimize impacts to the extent practicable.	In PHMA, IHMA, and GHMA in undertaking BLM management actions, and, consistent with valid existing right and applicable law, in authorizing third-party actions that result in habitat loss and degradation (Appendix E, Table E-1 [in the 2015 Final EIS]), the BLM will achieve the planning-level Greater Sage-Grouse management goals and objectives through implementation of mitigation and management actions. Under this Proposed Plan Amendment, the BLM's Greater Sage-Grouse management would be consistent with the Greater Sage-Grouse goals and objectives, and in conformance with BLM Manual 6840 – Special Status Species Management, undertake planning decisions, actions, and authorizations to “minimize or eliminate threats affecting the status of [Greater Sage-Grouse] or to improve the condition of [Greater Sage-Grouse] habitat” across the planning area. Further the BLM will require and ensure mitigation that provides no net loss to the species including accounting for any uncertainty associated with the effectiveness of such mitigation. This will be achieved by ensuring Greater Sage-Grouse habitat impacts are addressed by implementing mitigating actions consistent with the State of Idaho and the Proposed Plan Amendment. <del>In GHMA, proponents will be required to avoid and minimize impacts on the extent practicable.</del>

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MD SSS 30	<p>The following Anthropogenic Disturbance Development Criteria must be met in the screening and assessment process for proposals in PHMA and IHMA to discourage additional disturbance in PHMA and IHMA (as described in MD LR 2 and MD RE 1; applies to Idaho only):</p> <ul style="list-style-type: none"><li>a. Through coordination with the USFWS and State of Idaho (as described in MD CC 1), it is determined that the project cannot be achieved, technically or economically, outside of this management area; and</li><li>b. The project siting and/or design should best reduce cumulative impacts and/or impacts on Greater Sage-Grouse and other high value natural, cultural, or societal resources; this may include collocation within the footprint for existing infrastructure, to the extent practicable; and</li><li>c. The project results in a net conservation gain to Greater Sage-Grouse Key habitat or with beneficial mitigation actions reduces habitat fragmentation or other threats within the Conservation Area; and</li><li>d. The project design mitigates unavoidable impacts through appropriate compensatory mitigation; and</li><li>e. Development will be implemented adhering to the RDFs described in Appendix C [of the 2015 Final EIS].</li><li>f. The project will not exceed the disturbance cap (MD SSS 27).</li><li>g. In Montana, the BLM will apply the project/action screen and mitigation process (Appendix J [of the 2015 Final EIS])</li></ul>	<p>The following Anthropogenic Disturbance Development Criteria must be met in the screening and assessment process for proposals in PHMA and IHMA to discourage additional disturbance in PHMA and IHMA (as described in MD LR 2 and MD RE 1; applies to Idaho only):</p> <ul style="list-style-type: none"><li>a. Through coordination with the State of Idaho (as described in MD CC 1), it is determined that the project cannot be achieved, technically or economically, outside of this management area; and</li><li>b. The project siting and/or design should best reduce cumulative impacts and/or impacts on Greater Sage-Grouse and other high value natural, cultural, or societal resources; this may include collocation within the footprint for existing infrastructure, to the extent practicable; and</li><li>c. The project results in no net loss to Greater Sage-Grouse key habitat or with beneficial mitigation actions reduces habitat fragmentation or other threats within the Conservation Area; and</li><li>d. The project design mitigates unavoidable impacts through appropriate compensatory mitigation; and</li><li>e. Development will be implemented adhering to the RDFs described in Appendix C [of the 2015 Final EIS].</li><li>f. The project will not exceed the disturbance cap (MD SSS 27).</li></ul>	<p>All of the following anthropogenic disturbance development criteria must be met in the screening and assessment process for proposals in PHMA and IHMA to discourage additional disturbance in PHMA and IHMA (as described in MD LR 2 and MD RE 1; <del>applies to Idaho only</del>):</p> <ul style="list-style-type: none"><li>a. Through coordination with the State of Idaho (as described in MD CC 1), it is determined that the project cannot be achieved, technically or economically, outside of this management area</li><li>b. The project siting or design should best reduce cumulative impacts or impacts on Greater Sage-Grouse and other high value natural, cultural, or societal resources; this may include collocation within the footprint for existing infrastructure, to the extent practicable</li><li>c. The project results in no net loss to Greater Sage-Grouse key habitat or with beneficial actions reduces habitat fragmentation or other threats within the Conservation Area</li><li>d. Development will be implemented adhering to the RDFs described in Appendix C [of the 2015 Final EIS].</li><li>e. Large scale anthropogenic disturbances in PHMA and IHMA will be reviewed by the Technical and Policy Teams as described in MD SSS 44</li><li>f. The project will not exceed the disturbance cap (MD SSS 27)</li></ul>

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MD LR 14	<p>Lands classified as PHMA, IHMA, and GHMA for Greater Sage-Grouse will be retained in federal management unless: (1) the agency can demonstrate that disposal of the lands, including land exchanges, will provide a net conservation gain to the Greater Sage-Grouse or (2) the agency can demonstrate that the disposal, including land exchanges, of the lands will have no direct or indirect adverse impact on conservation of the Greater Sage-Grouse. Land tenure adjustments will be subject to the following disposal, exchange, and acquisition criteria, which include retaining lands with Greater Sage-Grouse habitat. Retention of areas with Greater Sage-Grouse will reduce the likelihood of habitat conversion to agriculture, urbanization, or other uses that will remove sagebrush habitat and potentially impact sensitive plants.</p> <p>Criteria:</p> <ol style="list-style-type: none"><li>Acquire habitat within PHMA and IHMA, when possible (i.e. willing landowner), and retain ownership of habitat within all Areas, except if disposal will allow for additional or more contiguous federal ownership patterns.</li><li>Lands within PHMA, IHMA and GHMA will be retained unless disposal of those lands will increase the extent or provide for connectivity of PHMA, IHMA or GHMA.</li><li>Evaluate potential land exchanges containing historically low-quality Greater Sage-Grouse habitat that may be too costly to restore in exchange for lands of higher quality habitat, lands that connect seasonal Greater Sage-Grouse habitats or lands providing for threatened and endangered species. These potential exchanges should lead to an increase in the extent or continuity of or provide for improved connectivity of PHMA. Higher priority will be given to exchanges for those in-tact areas of sagebrush that will contribute to the expansion of sagebrush areas within PHMA currently in public ownership. Lower priority will be given to other lands that will promote enhancement in the PHMA and IHMA (i.e., areas with fragmented or less in-tact sagebrush).</li><li>Identify lands for acquisition that increase the extent of or provide for connectivity of PHMA.</li></ol>	<p>Lands classified as PHMA, IHMA, and GHMA for Greater Sage-Grouse will be retained in federal management unless: (1) the agency can demonstrate that disposal of the lands, including land exchanges, will provide no net loss to the Greater Sage-Grouse or (2) the agency can demonstrate that the disposal, including land exchanges, of the lands will have no direct or indirect adverse impact on conservation of the Greater Sage-Grouse. Land tenure adjustments will be subject to the following disposal, exchange, and acquisition criteria, which include retaining lands with Greater Sage-Grouse habitat. Retention of areas with Greater Sage-Grouse will reduce the likelihood of habitat conversion to agriculture, urbanization, or other uses that will remove sagebrush habitat and potentially impact sensitive plants.</p> <p>Criteria:</p> <ol style="list-style-type: none"><li>Lands within PHMA, IHMA, and GHMA will be retained unless disposal of those lands will increase the extent or provide for connectivity of PHMA, IHMA, or GHMA.</li><li>Evaluate potential land exchanges containing historically low-quality Greater Sage-Grouse habitat that may be too costly to restore in exchange for lands of higher-quality habitat, lands that connect seasonal Greater Sage-Grouse habitats, or lands providing for threatened and endangered species. These potential exchanges should lead to an increase in the extent or continuity of or provide for improved connectivity of PHMA. Higher priority will be given to exchanges for those intact areas of sagebrush that will contribute to the expansion of sagebrush areas within PHMA currently in public ownership. Lower priority will be given to other lands that will promote enhancement in the IHMA and GHMA (i.e., areas with fragmented or less intact sagebrush).</li><li>Identify lands for acquisition that increase the extent of or provide for connectivity of PHMA.</li></ol>	<p>Lands classified as PHMA, IHMA, and GHMA for Greater Sage-Grouse will be retained in federal management unless: (1) the agency can demonstrate that disposal of the lands, including land exchanges, will provide no net loss to the Greater Sage-Grouse or (2) the agency can demonstrate that the disposal, including land exchanges, of the lands will have no direct or indirect adverse impact on conservation of the Greater Sage-Grouse. Land tenure adjustments will be subject to the following disposal, exchange, and acquisition criteria, which include retaining lands with Greater Sage-Grouse habitat. Retention of areas with Greater Sage-Grouse will reduce the likelihood of habitat conversion to agriculture, urbanization, or other uses that will remove sagebrush habitat and potentially impact sensitive plants.</p> <p>Criteria:</p> <ol style="list-style-type: none"><li>Retain lands in PHMA, IHMA, and GHMA, unless disposal of those lands would increase the extent or provide for connectivity of PHMA, IHMA, or GHMA.</li><li>Evaluate potential land exchanges containing historically low-quality Greater Sage-Grouse habitat that may be too costly to restore in exchange for lands of higher-quality habitat, lands that connect seasonal Greater Sage-Grouse habitats, or lands providing for threatened and endangered species. These potential exchanges should lead to an increase in the extent or continuity of or provide for improved connectivity of PHMA. Higher priority will be given to exchanges for those intact areas of sagebrush that will contribute to the expansion of sagebrush areas within PHMA currently in public ownership. Lower priority will be given to other lands that will promote enhancement in the IHMA and GHMA (i.e., areas with fragmented or less intact sagebrush).</li><li>Identify Lands for acquisition that increase the extent of or provide for connectivity of PHMA.</li></ol>
OBJ MR 2	<p>Where a proposed fluid mineral development project on an existing lease can adversely affect Greater Sage-Grouse populations or habitat, the BLM will work with the lessees, operators, or other project proponents to avoid, minimize and apply compensatory mitigation to the extent compatible with lessees' rights to drill and produce fluid mineral resources. The BLM will work with the lessee, operator, or project proponent in developing an APD or Geothermal Drilling Permit (GDP) for the lease to avoid, minimize, and apply compensatory mitigation to impacts on Greater Sage-Grouse or its habitat and will ensure that the best information about the Greater Sage-Grouse and its habitat informs and helps to guide development of such Federal leases.</p>	<p>Where a proposed fluid mineral development project on an existing lease can adversely affect Greater Sage-Grouse populations or habitat in PHMA and IHMA, the BLM will work with the lessees, operators, or other project proponents to avoid and minimize impacts and to compensate for unavoidable impacts to the extent compatible with lessees' rights to drill and produce fluid mineral resources. The BLM will work with the lessee, operator, or project proponent in developing an APD or Geothermal Drilling Permit (GDP) for the lease to apply the mitigation hierarchy to impacts on Greater Sage-Grouse or its habitat and will ensure that the best information about the Greater Sage-Grouse and its habitat informs and helps to guide development of such federal leases.</p>	<p>Where a proposed fluid mineral development project on an existing lease can adversely affect Greater Sage-Grouse populations or habitat in PHMA, and IHMA, and GHMA the BLM will work with the lessees, operators, or other project proponents to avoid and minimize impacts and to compensate for unavoidable impacts to the extent compatible with lessees' rights to drill and produce fluid mineral resources. The BLM will work with the lessee, operator, or project proponent in developing an APD or Geothermal Drilling Permit (GDP) for the lease to apply the mitigation hierarchy to impacts on Greater Sage-Grouse or its habitat and will ensure that the best information about the Greater Sage-Grouse and its habitat informs and helps to guide development of such federal leases.</p>

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MD REC 2	In PHMA and IHMA, do not construct new recreation facilities (e.g., campgrounds, trails, trailheads, staging areas) unless the development will have a net conservation gain to Greater Sage-Grouse habitat (such as concentrating recreation, diverting use away from critical areas, etc.), or unless the development is required for visitor health and safety or resource protection.	In PHMA and IHMA, do not construct new recreation facilities (campgrounds, parking lots, trailheads, and staging areas) larger than 0.25 acres and subject to appropriate buffers and RDFs and appropriate mitigation. Locate and design facilities to avoid or minimize impacts on Greater Sage-Grouse habitat. New trails in PHMA and IHMA should be designed to avoid or minimize impacts on Greater Sage-Grouse habitat. New trails would not be subject to buffers but may be subject to timing restrictions to avoid impacts on Greater Sage-Grouse.	In PHMA and IHMA, do not construct new recreation facilities (campgrounds, parking lots, trailheads, and staging areas) larger than 0.25 acres unless subject to appropriate buffers and RDFs and appropriate mitigation. Locate and design facilities to avoid or minimize impacts on Greater Sage-Grouse habitat. New trails in PHMA and IHMA should be designed to avoid or minimize impacts on Greater Sage-Grouse habitat. New non-motorized trails would not be subject to buffers but may be subject to timing restrictions to avoid impacts on Greater Sage-Grouse during the lekking/nesting season. Motorized trails would also be subject to buffers and seasonal timing restrictions.
Modifying Adaptive Management Strategy			
MD-SSS 15	Idaho: The hard and soft trigger data will be analyzed as soon as it becomes available after the signing of the ROD, and twice each year thereafter the applicable monitoring information will be reviewed to determine if any adaptive management triggers have been met.	The data from the lek counts and the key habitat map update will be reviewed annually to determine if any hard or soft adaptive management triggers have been met.	The data from the lek counts and the key habitat map update will be reviewed annually to determine if any hard or soft adaptive management triggers have been met.
MD SSS 20	Population Soft Triggers are defined as: <ul style="list-style-type: none"><li>A 10 percent decline in the current 3-year average of total maximum number of males counted compared to the 2011 maximum male baseline and a finite rate of change (<math>\lambda</math>) below 1.0 within PHMA within a Conservation Area over the same 3-year period; or</li><li>A 10 percent decline in the current 3-year average of total maximum number of males counted compared to the 2011 maximum male baseline and a finite rate of change (<math>\lambda</math>) below 1.0 within IHMA within a Conservation Area over the same 3-year period.</li></ul>	Population soft triggers are defined as: <ul style="list-style-type: none"><li>A 10 percent decline in the current 3-year average of total maximum number of males counted compared to the 2011 maximum male baseline and a finite rate of change (<math>\lambda</math>) below 1.0 within PHMA within a Conservation Area over the same 3-year period; or</li><li>A 10 percent decline in the current 3-year average of total maximum number of males counted compared to the 2011 maximum male baseline and a finite rate of change (<math>\lambda</math>) below 1.0 within IHMA within a Conservation Area over the same 3-year period.</li><li>Significance for soft triggers is defined by the 80 percent confidence interval around the current 3-year finite rate of change. If the 80 percent confidence interval is less than, and does not include 1.0, then the finite rate of change is considered significant. The finite rate of change and variance will be calculated following Garton et al. (2011).</li></ul>	Population soft triggers are defined as: <ul style="list-style-type: none"><li>A 10 percent decline in the current 3-year average of total maximum number of males counted compared to the 2011 maximum male baseline and a finite rate of change (<math>\lambda</math>) below 1.0 within PHMA within a Conservation Area over the same 3-year period</li><li>A 10 percent decline in the current 3-year average of total maximum number of males counted compared to the 2011 maximum male baseline and a finite rate of change (<math>\lambda</math>) below 1.0 within IHMA within a Conservation Area over the same 3-year period</li><li>Significance for soft triggers is defined by the 80 percent confidence interval around the current 3-year finite rate of change. If the 80 percent confidence interval is less than, and does not include 1.0, then the finite rate of change is considered significant. The finite rate of change and variance will be calculated following Garton et al. (2011).</li></ul>
MD SSS 24	Remove any adaptive management response when the habitat or maximum male population count (i.e., 3-year average) returns to or exceeds the 2011 baseline levels within the associated Conservation Area in accordance with the Adaptive Management Strategy (Appendix E [of the 2015 Final EIS]). In such a case, changes in management allocations resulting from a tripped trigger will revert back to the original allocation.	Remove the automatic hard trigger adaptive management response when the habitat or maximum male population count (i.e., 3-year average) returns to or exceeds the 2011 baseline levels within the associated Conservation Area in accordance with the Adaptive Management Strategy (Appendix E [of the 2015 Final EIS]). In such a case, changes in management allocations resulting from a tripped trigger will revert back to the original allocation (MD SSS 22).	Remove the automatic hard trigger adaptive management response when the habitat or maximum male population count (i.e., 3-year average) returns to or exceeds the 2011 baseline levels within the associated Conservation Area in accordance with the Adaptive Management Strategy (Appendix E [of the 2015 Final EIS]). In such a case, changes in management allocations resulting from a tripped trigger will revert back to the original allocation (MD SSS 22).
Modifying Appendices			
Appendix A Maps	All maps remain as they were printed in 2015.	Update all maps to reflect the following changes: <ul style="list-style-type: none"><li>Update to display only Idaho</li><li>Remove SFA</li><li>Update PHMA and IHMA boundaries to reflect the change of the Brown's Creek area from PHMA to IHMA</li><li>Update PHMA, IHMA, and GHMA boundaries to reflect corrections to administrative errors</li><li>Update PHMA and IHMA boundaries to reflect the change of the Brown's Creek area from PHMA BSU to IHMA BSU</li><li>Delete Figure 2-11b, as it only applies to Montana</li></ul>	Update all maps to reflect the following changes: <ul style="list-style-type: none"><li>Update to display only Idaho</li><li>Remove SFA</li><li>Update PHMA and IHMA boundaries to reflect the change of the Brown's Creek area from PHMA to IHMA</li><li>Update PHMA, IHMA, and GHMA boundaries to reflect corrections to administrative errors</li><li>Update PHMA and IHMA boundaries to reflect the change of the Brown's Creek area from PHMA BSU to IHMA BSU</li><li>Delete Figure 2-11b, as it applies to Montana only</li></ul>

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Appendix B	<p><b>B. Buffers</b></p> <p>Applying Lek Buffer-Distances When Approving Actions</p> <ul style="list-style-type: none"><li>• <i>Buffer Distances and Evaluation of Impacts on Leks</i></li></ul> <p>Evaluate impacts on leks from actions requiring NEPA analysis. In addition to any other relevant information determined to be appropriate (e.g. State wildlife agency plans), the BLM will assess and address impacts from the following activities using the lek buffer-distances as identified in the USGS Report <i>Conservation Buffer Distance Estimates for Greater Sage-Grouse – A Review</i> (Open File Report 2014-1239). The BLM will apply the lek buffer-distances specified as the lower end of the interpreted range in the report unless justifiable departures are determined to be appropriate (see below). The lower end of the interpreted range of the lek buffer-distances is as follows:</p> <ul style="list-style-type: none"><li>o linear features (roads) within 3.1 miles of leks</li><li>o infrastructure related to energy development within 3.1 miles of leks.</li><li>o tall structures (e.g., communication or transmission towers, transmission lines) within 2 miles of leks.</li><li>o low structures (e.g., fences, rangeland structures) within 1.2 miles of leks.</li><li>o surface disturbance (continuing human activities that alter or remove the natural vegetation) within 3.1 miles of leks.</li><li>o noise and related disruptive activities including those that do not result in habitat loss (e.g., motorized recreational events) at least 0.25 miles from leks.</li></ul> <p>Justifiable departures to decrease or increase from these distances, based on local data, best available science, landscape features, and other existing protections (e.g., land use allocations, state regulations) may be appropriate for determining activity impacts. The USGS report recognized “that because of variation in populations, habitats, development patterns, social context, and other factors, for a particular disturbance type, there is no single distance that is an appropriate buffer for all populations and habitats across the sage-grouse range”. The USGS report also states that “various protection measures have been developed and implemented... [which have] the ability (alone or in concert with others) to protect important habitats, sustain populations, and support multiple-use demands for public lands”. All variations in lek buffer-distances will require appropriate analysis and disclosure as part of activity authorization. In determining lek locations, the BLM will use the most recent active or occupied lek data available from the state wildlife agency.</p> <p><i>For Actions in GHMA</i></p> <p>The BLM will apply the lek buffer-distances identified above as required conservation measures to fully address the impacts on leks as identified in the NEPA analysis. Impacts should first be avoided by locating the action outside of the applicable lek buffer – distance(s) identified above.</p> <p>The BLM may approve actions in GHMA that are within the applicable lek buffer distance identified above only if:</p> <ul style="list-style-type: none"><li>o Impacts should first be avoided by locating the action outside of the applicable lek buffer-distance(s) identified above.</li></ul>	<p><i>Distance Estimates for Greater Sage-Grouse – A Review</i> (Open File Report 2014-1239). In PHMA: The BLM will apply the lek buffer-distances specified as the lower end of the interpreted range in the report unless justifiable departures are determined to be appropriate (see below). The lower end of the interpreted range of the lek buffer-distances is as follows:</p> <ul style="list-style-type: none"><li>o linear features (roads) within 3.1 miles of leks</li><li>o infrastructure related to energy development within 3.1 miles of leks</li><li>o tall structures (e.g., communication or transmission towers, transmission lines) within 2 miles of leks</li><li>o low structures (e.g., fences and rangeland structures) within 1.2 miles of leks</li><li>o surface disturbance (continuing human activities that alter or remove the natural vegetation) within 3.1 miles of leks</li><li>o noise and related disruptive activities including those that do not result in habitat loss (e.g., motorized recreational events) at least 0.25 miles from leks</li></ul> <p>In IHMA: The BLM will apply the lek buffer-distances specified as the USGS Literature Minimums in the report unless justifiable departures are determined to be appropriate (see below). The USGS Literature Minimums of the lek buffer-distances are as follows:</p> <ul style="list-style-type: none"><li>o linear features (roads) within 0.25 miles of leks</li><li>o infrastructure related to energy development within 2 miles of leks</li><li>o tall structures (e.g., communication or transmission towers, transmission lines) within 0.6 miles of leks</li><li>o low structures (e.g., fences and rangeland structures) within 0.12 miles of leks</li><li>o surface disturbance (continuing human activities that alter or remove the natural vegetation) within 2 miles of leks</li><li>o noise and related disruptive activities including those that do not result in habitat loss (e.g., motorized recreational events) at least 0.12 miles from leks</li></ul> <p>The buffers do not apply to vegetation treatments specifically designed to improve or protect Greater Sage-Grouse habitat.</p> <p>Buffers are not required in GHMA.</p> <p>Justifiable departures to decrease or increase from these distances, based on local data, best available science, landscape features, and other existing protections (e.g., land use allocations and state regulations) may be appropriate for determining activity impacts. The USGS report recognized “that because of variation in populations, habitats, development patterns, social context, and other factors, for a particular disturbance type, there is no single distance that is an appropriate buffer for all populations and habitats across the sage-grouse range.” The USGS report also states that “various protection measures have been developed and implemented... [which have] the ability (alone or in concert with others) to protect important habitats, sustain populations, and support multiple-use demands for public lands.” All variations in lek buffer-distances will require appropriate analysis and disclosure as part of activity authorization. In determining lek locations, the BLM will use the most recent active or occupied lek data available from the state wildlife agency.</p> <ul style="list-style-type: none"><li>• <i>For Actions in PHMA and IHMA</i></li></ul> <p>The BLM will apply the lek buffer-distances identified above as required conservation measures to fully address the impacts on leks as identified in the NEPA analysis.</p>	<p><i>Distance Estimates for GRSG – A Review</i> (Open File Report 2014-1239). In PHMA: The BLM will apply the lek buffer-distances specified as the lower end of the interpreted range in the report unless justifiable departures are determined to be appropriate (see below). The lower end of the interpreted range of the lek buffer-distances is as follows:</p> <ul style="list-style-type: none"><li>• linear features (roads) within 3.1 miles of leks</li><li>• infrastructure related to energy development within 3.1 miles of leks</li><li>• tall structures (e.g., communication or transmission towers, transmission lines) within 2 miles of leks</li><li>• low structures (e.g., fences and rangeland structures) within 1.2 miles of leks</li><li>• surface disturbance (continuing human activities that alter or remove the natural vegetation) within 3.1 miles of leks<ul style="list-style-type: none"><li>o Noise and related disruptive activities</li><li>o Repeated/sustained disturbance including those that do not result in habitat loss at least 2 miles from leks</li><li>o Temporary noise including those that do not result in habitat loss (e.g., motorized recreational events) at least 0.25 miles from leks)</li></ul></li></ul> <p>In IHMA: The BLM will apply the lek buffer-distances as follows unless justifiable departures are determined to be appropriate (see below).</p> <ul style="list-style-type: none"><li>• Linear features (e.g. roads) within 0.8 miles of leks</li><li>• Infrastructure related to energy development (e.g. oil, gas, wind, solar) within 2 miles of leks</li><li>• Tall structures (e.g., electrical, communication, meteorological)<ul style="list-style-type: none"><li>o Transmission lines/towers: within 1.2 miles of leks, with a 1.2 - 2 mile buffer subject to the exemption criteria: applicable to this variable and select variables in GHMA below</li><li>o Distribution lines/poles: within 0.6 miles of leks</li><li>o Communication and meteorological towers: within 2 miles of leks</li><li>o Low structures (e.g., fences and rangeland structures) within 0.12-0.6 miles of leks</li></ul></li><li>• Surface disturbance (continuing human activities that alter or remove the natural vegetation) within 2 miles of leks</li><li>• Noise and related disruptive activities</li><li>• Repeated/sustained noise disturbance including those that do not result in habitat loss at least 2 miles of leks</li><li>• Temporary noise disturbance including those that do not result in habitat loss (e.g., motorized recreational events) at least 0.25 miles from leks</li><li>• <del>at least 0.12 miles from leks</del></li></ul> <p><del>Buffers are not required in GHMA.</del></p> <p>In GHMA: The BLM will apply the lek buffer-distances as follows, subject to exception criteria:</p> <ul style="list-style-type: none"><li>• Linear features (e.g. roads) within 0.25 miles of leks</li><li>• Infrastructure related to energy development (e.g. oil, gas, wind, solar) within 0.6 miles of leks; 2 mile feasibility/practicality conditions</li><li>• Tall structures (e.g., electrical, communication, meteorological): within 0.6 miles of leks</li><li>• Low structures (e.g., fences and rangeland structures) within 0.12 miles of leks</li></ul>

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Appendix B (cont.)	<p>o If it is not possible to relocate the project outside of the applicable lek buffer-distance(s) identified above, the BLM may approve the project only if:</p> <ul style="list-style-type: none"><li>– Based on best available science, landscape features, and other existing protections, (e.g., land use allocations, state regulations), the BLM determines that a lek buffer-distance other than the applicable distance identified above offers the same or a greater level of protection to Greater Sage-Grouse and its habitat, including conservation of seasonal habitat outside of the analyzed buffer area; or</li><li>– The BLM determines that impacts on Greater Sage-Grouse and its habitat are minimized such that the project will cause minor or no new disturbance (ex. co-location with existing authorizations); and</li><li>– Any residual impacts within the lek buffer-distances are addressed through compensatory mitigation measures sufficient to ensure a net conservation gain, as outlined in the Mitigation Strategy (Appendix X [of the 2015 Final EIS]).</li></ul> <p>• <i>For Actions in PHMA and IHMA</i> The BLM will apply the lek buffer-distances identified above as required conservation measures to fully address the impacts on leks as identified in the NEPA analysis. Impacts should be avoided by locating the action outside of the applicable lek buffer-distance(s) identified above. The BLM may approve actions in PHMA and IMHA that are within the applicable lek buffer distance identified above only if:</p> <ul style="list-style-type: none"><li>o The BLM, with input from the state fish and wildlife agency, determines, based on best available science, landscape features, and other existing protections, that a buffer distance other than the distance identified above offers the same or greater level of protection to Greater Sage-Grouse and its habitat, including conservation of seasonal habitat outside of the analyzed buffer area.</li><li>• Range improvements which do not impact Greater Sage-Grouse, or, range improvements which provide a conservation benefit to Greater Sage-Grouse such as fences for protecting important seasonal habitats, meet the lek buffer requirement.</li><li>• The BLM will explain its justification for determining the approved buffer-distances meet these conditions in its project decision.</li></ul>	<p>Impacts should be avoided by locating the action outside of the applicable lek buffer-distance(s) identified above. The BLM may approve actions in PHMA and IMHA that are within the applicable lek buffer-distance identified above only if:</p> <ul style="list-style-type: none"><li>o The BLM, with input from the state fish and wildlife agency, determines, based on best available science, landscape features, and other existing protections, that a buffer-distance other than the distance identified above offers the same or greater level of protection to Greater Sage-Grouse and its habitat, including conservation of seasonal habitat outside of the analyzed buffer area.</li><li>• Range improvements that do not impact Greater Sage-Grouse, or, range improvements that provide a conservation benefit to Greater Sage-Grouse, such as fences for protecting important seasonal habitats, meet the lek buffer requirement.</li><li>• The BLM will explain its justification for determining the approved buffer distances meet these conditions in its project decision.</li></ul>	<ul style="list-style-type: none"><li>• Surface disturbance (continuing human activities that alter or remove the natural vegetation) within 2 miles of leks</li></ul> <p>Noise and related disruptive activities</p> <ul style="list-style-type: none"><li>• Repeated/sustained disturbance including those that do not result in habitat loss at least 2 miles from leks</li><li>• Temporary disturbance including those that do not result in habitat loss (e.g., motorized recreational events) at least 0.25 miles from leks</li></ul> <p>Buffer Exception Criteria for IHMA and GHMA: It is impracticable, technically or economically, to locate the project outside of the buffer area; and Impacts are avoided through project siting and design to the extent reasonable or impacts are minor or nonexistent and impacts are avoided through project siting and design to the extent reasonable.</p> <p>The buffers do not apply to vegetation treatments specifically designed to improve or protect Greater Sage-Grouse habitat.</p> <p>Justifiable departures to decrease or increase from these distances, based on local data, best available science, landscape features, and other existing protections (e.g., land use allocations and state regulations) may be appropriate for determining activity impacts. The USGS report recognized “that because of variation in populations, habitats, development patterns, social context, and other factors, for a particular disturbance type, there is no single distance that is an appropriate buffer for all populations and habitats across the sage-grouse range.” The USGS report also states that “various protection measures have been developed and implemented... [which have] the ability (alone or in concert with others) to protect important habitats, sustain populations, and support multiple-use demands for public lands.” All variations in lek buffer-distances will require appropriate analysis and disclosure as part of activity authorization. In determining lek locations, the BLM will use the most recent active or occupied lek data available from the state wildlife agency.</p> <p><i>For actions in PHMA and IHMA</i></p> <ul style="list-style-type: none"><li>• The BLM will apply the lek buffer-distances identified above as required conservation measures to fully address the impacts on leks as identified in the NEPA analysis. Impacts should be avoided by locating the action outside of the applicable lek buffer-distance(s) identified above.</li><li>• The BLM may approve actions in PHMA and IMHA that are within the applicable lek buffer-distance identified above only if:</li><li>• The BLM, with input from the state fish and wildlife agency, determines, based on best available science, landscape features, and other existing protections, that a buffer-distance other than the distance identified above offers the same or greater level of protection to Greater Sage-Grouse and its habitat, including conservation of seasonal habitat outside of the analyzed buffer area.</li><li>• Range improvements that do not impact Greater Sage-Grouse, or, range improvements that provide a conservation benefit to Greater Sage-Grouse, such as fences for protecting important seasonal habitats, meet the lek buffer requirement.</li><li>• The BLM will explain its justification for determining the approved buffer distances meet these conditions in its project decision.</li></ul>

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Appendix C	<p>C. Required Design Features</p> <p>Required Design Features (RDFs) are required for certain activities in all Greater Sage-Grouse habitat. RDFs establish the minimum specifications for certain activities to help mitigate adverse impacts. However, the applicability and overall effectiveness of each RDF cannot be fully assessed until the project level when the project location and design are known. Because of site-specific circumstances, some RDFs may not apply to some projects (e.g., a resource is not present on a given site) and/or may require slight variations (e.g., a larger or smaller protective area). RDFs are continuously improving as new science and technology become available and therefore are subject to change. All variations in RDFs would require that at least one of the following be demonstrated in the NEPA analysis associated with the project/activity:</p> <ul style="list-style-type: none"><li>• A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable;</li><li>• An alternative RDF, a state-implemented conservation measure or plan-level protection is determined to provide equal or better protection for Greater Sage-Grouse or its habitat.</li><li>• A specific RDF will provide no additional protection to Greater Sage-Grouse or its habitat.</li></ul> <p>The following required design features (RDFs) are included for consideration and use based upon review of current science and effects analysis (circa 2014) (Table B-1 [in the 2015 Final EIS]). These may be reviewed during project evaluation and updated through plan maintenance as new information and updated scientific findings become available. The table is organized by program area grouping the RDFs most relevant to that program. All relevant RDFs, regardless of which program they are grouped under, should be considered during project evaluation and applicable RDFs should be applied during implementation. The following measures would be applied as RDFs for all solid minerals. They would also apply to locatable minerals consistent with applicable law. In some cases the RDFs may not all be appropriate based on local conditions and would be assessed in the appropriate site specific NEPA analysis, these all should be considered and where determined to be beneficial to achieving Greater Sage-Grouse habitat objectives included as part of the site specific project. In other cases additional project design criteria or best management practices could be incorporated into project implementation to address site specific concerns not fully addressed by the RDFs described here.</p>	<p>C. Required Design Features</p> <p>Required design features (RDFs) are a list of best management practices that are intended to avoid and minimize impacts on Greater Sage-Grouse or Greater Sage-Grouse habitat. When the RDFs are applicable to a given project in PHMA and IHMA, they are required unless an alternate action is implemented that will provide equal or greater protection. The RDFs are considered best management practices that may be considered and applied in GHMA as practicable. Because of site-specific circumstances, some RDFs may not apply to some projects (e.g., a resource is not present on a given site) and/or may require slight variations (e.g., a larger or smaller protective area). RDFs are continuously improving as new science and technology become available and therefore are subject to change. All variations in RDFs would require that at least one of the following be demonstrated in the NEPA analysis associated with the project/activity:</p> <ul style="list-style-type: none"><li>• A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable.</li><li>• An alternative RDF, a state-implemented conservation measure, or plan-level protection is determined to provide equal or better protection for Greater Sage-Grouse or its habitat.</li><li>• A specific RDF will provide no additional protection to Greater Sage-Grouse or its habitat.</li></ul> <p>The following RDFs are included for consideration and use based upon review of current science and effects analysis (circa 2014; Table B-1 [in the 2015 Final EIS]). These may be reviewed during project evaluation and updated through plan maintenance as new information and updated scientific findings become available. The table is organized by program area grouping the RDFs most relevant to that program. All relevant RDFs, regardless of which program they are grouped under, should be considered during project evaluation, and applicable RDFs should be applied during implementation. The following measures would be applied as RDFs for all solid minerals. They would also apply to locatable minerals consistent with applicable law. In some cases, the RDFs may not all be appropriate based on local conditions and would be assessed in the appropriate site-specific NEPA analysis; these all should be considered and where determined to be beneficial to achieving Greater Sage-Grouse habitat objectives included as part of the site-specific project. In other cases, additional project design criteria or best management practices could be incorporated into project implementation to address site-specific concerns not fully addressed by the RDFs described here.</p>	<p>C. Required Design Features</p> <p>Required design features (RDFs) are a list of best management practices that are intended to avoid and minimize impacts on Greater Sage-Grouse or Greater Sage-Grouse habitat. When the RDFs are applicable to a given project in PHMA and IHMA, they are required unless an alternate action is implemented that will provide equal or greater protection. The RDFs are considered best management practices that should be considered and applied in GHMA unless the proponent can show that applying the BMP is technically or economically impracticable. Because of site-specific circumstances, some RDFs may not apply to some projects (e.g., a resource is not present on a given site) and/or may require slight variations (e.g., a larger or smaller protective area). RDFs are continuously improving as new science and technology become available and therefore are subject to change. All variations in RDFs would require that at least one of the following be demonstrated in the NEPA analysis associated with the project/activity:</p> <ul style="list-style-type: none"><li>• A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g. due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable.</li><li>• An alternative RDF, a state-implemented conservation measure, or plan-level protection is determined to provide equal or better protection for Greater Sage-Grouse or its habitat.</li><li>• A specific RDF will provide no additional protection to Greater Sage-Grouse or its habitat.</li></ul> <p>The following RDFs are included for consideration and use based upon review of current science and effects analysis (circa 2014; Table B-1 [in the 2015 Final EIS]). These may be reviewed during project evaluation and updated through plan maintenance as new information and updated scientific findings become available. The table is organized by program area grouping the RDFs most relevant to that program. All relevant RDFs, regardless of which program they are grouped under, should be considered during project evaluation, and applicable RDFs should be applied during implementation. The following measures would be applied as RDFs for all solid minerals. They would also apply to locatable minerals consistent with applicable law. In some cases, the RDFs may not all be appropriate based on local conditions and would be assessed in the appropriate site-specific NEPA analysis; these all should be considered and where determined to be beneficial to achieving Greater Sage-Grouse habitat objectives included as part of the site-specific project. In other cases, additional project design criteria or best management practices could be incorporated into project implementation to address site-specific concerns not fully addressed by the RDFs described here.</p>



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Appendix C (cont.)	<p>General</p> <p>1. Solicit and consider expertise and ideas from local landowners, working groups, and other federal, state, county, and private organizations during development of projects.</p> <p>2. No repeated or sustained behavioral disturbance (e.g., visual, noise over 10 dbA at lek, etc.) to lekking birds from 6:00 pm to 9:00 am within 2 miles (3.2 km) of leks during the lekking season.</p> <p>3. Avoid mechanized anthropogenic disturbance, in nesting habitat during the nesting season when implementing: 1) fuels/vegetation/habitat restoration management projects, 2) infrastructure construction or maintenance, 3) geophysical exploration activities; 4) organized motorized recreational events.</p> <p>4. Avoid mechanized anthropogenic disturbance during the winter, in wintering areas when implementing: 1) fuels/vegetation/habitat restoration management projects, 2) infrastructure construction or maintenance, 3) geophysical exploration activities; 4) organized motorized recreational events.</p> <p>Wildfire Suppression</p> <p>5. Compile district-level information into state-wide Greater Sage-Grouse tool boxes. Tool boxes will contain maps, listing of resource advisors, contact information, local guidance, and other relevant information for each district, which will be aggregated into a state-wide document.</p> <p>6. Provide localized maps to dispatch offices and extended attack incident commanders for use in prioritizing wildfire suppression resources and designing suppression tactics. The Fire Planning and Fuels Management Division (FA-600) hosts a webpage containing up-to-date maps, instruction memoranda, conservation measures, BMPs, and spatial data specific to fire operations and fuels management/Greater Sage-Grouse interactions. These resources can be accessed at: <a href="http://web.blm.gov/internal/fire/fpfm/sg/index.html">http://web.blm.gov/internal/fire/fpfm/sg/index.html</a>. Additional BLM Greater Sage-Grouse information can be found at: <a href="http://www.blm.gov/wo/st/en/prog/more/fish__wildlife_and/sage-grouse-conservation.html">http://www.blm.gov/wo/st/en/prog/more/fish__wildlife_and/sage-grouse-conservation.html</a>.</p> <p>7. Assign a resource advisor with Greater Sage-Grouse expertise, or who has access to Greater Sage-Grouse expertise, to all extended attack fires in or near Greater Sage-Grouse habitat areas. Prior to the fire season, provide training to Greater Sage-Grouse resource advisors on wildfire suppression organization, objectives, tactics, and procedures to develop a cadre of qualified individuals. Involve state wildlife agency expertise in fire operations through:</p> <ul style="list-style-type: none"><li>• instructing resource advisors during preseason trainings;</li><li>• qualification as resource advisors;</li><li>• coordination with resource advisors during fire incidents;</li><li>• contributing to incident planning with information such as habitat features or other key data useful in fire decision making</li></ul>	<p>Required Design Features</p> <p>General (applicable to all projects)</p> <p>Seasonal Restrictions</p> <p>1. Solicit and consider expertise and ideas from local landowners, working groups, and other federal, state, county, and private organizations during development of projects</p> <p>2. No repeated or sustained behavioral disturbance (e.g., visual, noise over 10 dbA at lek, etc.) to lekking birds from 6:00 pm to 9:00 am within 2 miles (3.2 km) of leks during the lekking season</p> <p>3. Avoid mechanized anthropogenic disturbance, in nesting habitat during the nesting season, and in wintering habitat during the winter season when implementing: 1) fuels/vegetation/habitat restoration management projects, 2) infrastructure construction or maintenance, 3) geophysical exploration activities; 4) organized motorized recreational events.</p> <ul style="list-style-type: none"><li>• Routine road blading, where no water turnouts or culverts are cleaned, repaired, or replaced and no road upgrades occur, is not included in this restriction.</li><li>• Emergency actions to protect life or property are excluded from these restrictions.</li><li>• Fuels and vegetation treatments specifically designed to improve or protect Greater Sage-Grouse habitat are subject to this restriction as practicable; however, restoring and improving Greater Sage-Grouse habitat is a high priority of this plan.</li></ul> <p>General infrastructure development activities</p> <p>4. Minimize cross-country vehicle travel during all types of activities in Greater Sage-Grouse habitat.</p> <p>5. Power-wash all vehicles and equipment involved in off-road activities (including firefighting vehicles, construction equipment, seeding equipment, etc.) prior to entering the area, to minimize the introduction of undesirable and/or invasive plant species.</p> <p>6. Above-ground disturbance areas would be seeded with perennial vegetation as per vegetation management.</p> <p>7. Where practicable, place infrastructure in already disturbed locations where the habitat has not been fully restored.</p> <p>8. Cluster disturbances, operations (fracturing stimulation, liquids gathering, etc.) and facilities as close as possible.</p> <p>9. Collocate linear facilities within 1 mile of existing linear facilities.</p> <p>10. Micro-site linear facilities to reduce impacts on Greater Sage-Grouse habitats.</p> <p>11. Locate staging areas outside PHMA to the extent possible.</p> <p>12. Consider collocating powerlines, flowlines, and pipelines under or immediately adjacent to a road or adjacent to other pipelines first, before considering collocating with other ROWs.</p>	<p>Required Design Features</p> <p>General (applicable to all projects)</p> <p>Seasonal Restrictions</p> <p>1. Solicit and consider expertise and ideas from local landowners, working groups, and other federal, state, county, and private organizations during development of projects.</p> <p><del>2. No repeated or sustained behavioral disturbance (e.g., visual, noise over 10 dbA at lek, etc.) to lekking birds from 6:00 pm to 9:00 am within 2 miles (3.2 km) of leks during the lekking season. (This RDF is covered through HMA buffers.)</del></p> <p>3. Avoid mechanized anthropogenic disturbance, in nesting habitat during the nesting season, and in wintering habitat during the winter season when implementing: 1) fuels/vegetation/habitat restoration management projects, 2) infrastructure construction or maintenance, 3) geophysical exploration activities; 4) organized motorized recreational events.</p> <ul style="list-style-type: none"><li>• Routine road blading, where no water turnouts or culverts are cleaned, repaired, or replaced and no road upgrades occur, is not included in this restriction.</li><li>• Emergency actions to protect life or property are excluded from these restrictions.</li><li>• Fuels and vegetation treatments specifically designed to improve or protect Greater Sage-Grouse habitat are not subject to this restriction. as practicable; however, restoring and improving Greater Sage-Grouse habitat is a high priority of this plan and the activity's effects will be analyzed for that sage-grouse population.</li></ul> <p>General infrastructure development activities</p> <p>4. Minimize cross-country vehicle travel during all types of activities in Greater Sage-Grouse habitat.</p> <p>5. Power-wash all vehicles and equipment involved in off-road activities (including firefighting vehicles, construction equipment, seeding equipment, etc.) prior to entering the area, to minimize the introduction of undesirable and/or invasive plant species.</p> <p>6. Above-ground disturbance areas would be seeded with perennial vegetation as per vegetation management.</p> <p>7. Where practicable, place infrastructure in already disturbed locations where the habitat has not been fully restored.</p> <p>8. Cluster disturbances, operations (fracturing stimulation, liquids gathering, etc.) and facilities as close as possible.</p> <p><del>9. Collocate linear facilities within 1 km of existing linear facilities.</del></p> <p>10. Micro-site linear facilities to reduce impacts on Greater Sage-Grouse habitats.</p> <p>11. Locate staging areas outside PHMA to the extent possible.</p>

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Appendix C (cont.)	<p>8. At the onset of an emerging wildland fire the Agency Administrators and Fire Management Officers will engage a local Resource Advisor to assess Greater Sage-Grouse habitat that may be affected by the fire or suppression activities.</p> <p>9. If complexity of the wildland fire warrants the activation of an Incident Management Team, locally refined information regarding important Greater Sage-Grouse habitat will be relayed during in brief and continually throughout the incident.</p> <p>10. On critical fire weather days, pre-position additional fire suppression resources to optimize a quick and efficient response in Greater Sage-Grouse habitat areas.</p> <p>11. As appropriate, utilize existing fuel breaks, such as roads or discrete changes in fuel type, as control lines in order to minimize fire spread.</p> <p>12. During periods of multiple fires, ensure line officers are involved in setting priorities.</p> <p>13. To the extent possible, locate wildfire suppression facilities (i.e., base camps, spike camps, drop points, staging areas, heli-bases, etc.) in areas where physical disturbance to Greater Sage-Grouse habitat can be minimized. These include disturbed areas, grasslands, near roads/trails or in other areas where there is existing disturbance or minimal sagebrush cover.</p> <p>14. Power-wash all firefighting vehicles, to the extent possible, including engines, water tenders, personnel vehicles, and all-terrain vehicles (ATV) prior to deploying in or near Greater Sage-Grouse habitat areas to minimize noxious weed spread.</p> <p>15. Minimize cross-country vehicle travel during fire operations in Greater Sage-Grouse habitat.</p> <p>16. Minimize burnout operations in key Greater Sage-Grouse habitat areas by constructing direct fireline whenever safe and practical to do so.</p> <p>17. Utilize retardant, mechanized equipment, and other available resources to minimize burned acreage during initial attack.</p> <p>18. As safety allows, conduct mop-up where the black adjoins unburned islands, dog legs, or other habitat features to minimize sagebrush loss.</p> <p>19. Adequately document fire operation activities in Greater Sage-Grouse habitat for potential follow-up coordination activities.</p> <p><b>Fuels Management</b> <i>Unless otherwise specified as part of the land use plan consider the full array of fuels management treatment types (prescribed fire, mechanical, chemical and biological) when implementing the following RDFs.</i></p> <p>20. Where applicable, design fuels treatment objectives to protect existing sagebrush ecosystems, modify fire behavior, restore native plants, and create landscape patterns which most benefit Greater Sage-Grouse habitat.</p> <p>21. Provide training to fuels treatment personnel on Greater Sage-Grouse biology, habitat requirements, and identification of areas utilized locally.</p> <p>22. Use burning prescriptions which minimize undesirable effects on vegetation or soils (e.g., minimize mortality of desirable perennial plant species and reduce risk of annual grass invasion).</p>	<p>13. Restrict the construction of tall facilities and fences to the minimum number and amount needed.</p> <p>14. Construction and development activities should conform to seasonal restrictions.</p> <p>15. Control the spread and effects of nonnative plant species (e.g. by washing vehicles and equipment; Gelbard and Belnap 2003; Bergquist et al. 2007; Evangelista et al. 2011).</p> <p>16. The BLM/Forest Service would evaluate the potential for limitation of new noise sources on a case-by-case basis as appropriate.</p> <p>17. Design and locate fences to reduce the risk of Greater Sage-Grouse collisions.</p> <p>18. As new research is completed, new specific limitations would be coordinated with the IDFG and partners.</p> <p>19. Clean up refuse (Bui et al. 2010).</p> <p>20. Eliminate or minimize corvid subsidies as practicable.</p> <p><b>Roads</b></p> <p>21. Utilize existing roads, or realignments of existing routes to the extent possible.</p> <p>22. Design roads to an appropriate standard no higher than necessary to accommodate their intended purpose.</p> <p>23. Do not issue ROWs or SUAs to counties on newly constructed energy or mineral development roads, unless for a temporary use consistent with all other terms and conditions included in this document.</p> <p>24. Establish speed limits on BLM and USFS system roads to reduce vehicle/wildlife collisions or design roads to be driven at slower speeds.</p> <p>25. Coordinate road construction and use among ROW or SUA holders.</p> <p>26. Construct road crossings at right angles to ephemeral drainages and stream crossings.</p> <p>27. Use dust abatement on roads and pads as necessary.</p> <p>28. Close and reclaim duplicate roads by restoring original landform and establishing desired vegetation.</p> <p>29. Locate roads to avoid priority areas and habitats as described in the Wildfire and Invasive Species Assessments to the extent practicable.</p> <p><b>Reclamation Activities</b></p> <p>30. Include objectives for ensuring habitat restoration to meet Greater Sage-Grouse habitat needs in reclamation practices/sites (Pyke 2011).</p> <p>31. Address post-reclamation management in the reclamation plan such that goals and objectives are to protect and improve Greater Sage-Grouse habitat needs.</p> <p>32. Maximize the area of interim reclamation on long-term access roads and well pads, including reshaping, topsoiling, and revegetating cut-and-fill slopes.</p> <p>33. Restore disturbed areas at final reclamation to the pre-disturbance landforms and desired plant community.</p> <p>34. Irrigate interim reclamation if necessary for establishing seedlings more quickly.</p> <p>35. Utilize mulching techniques to expedite reclamation and to protect soils.</p>	<p>12. Consider collocating power lines, flowlines, and pipelines under or immediately adjacent to a road or adjacent to other pipelines first, before considering collocating with other ROWs.</p> <p>13. Restrict the construction of tall facilities and fences to the minimum number and amount needed.</p> <p>14. Construction and development activities should conform to seasonal restrictions.</p> <p>15. Control the spread and effects of nonnative plant species (e.g. by washing vehicles and equipment; Gelbard and Belnap 2003; Bergquist et al. 2007; Evangelista et al. 2011).</p> <p>16. The BLM/Forest Service would evaluate the potential for limitation of new noise sources on a case-by-case basis as appropriate.</p> <p>17. Design and locate fences to reduce the risk of Greater Sage-Grouse collisions.</p> <p>18. As new research is completed, new specific limitations would be coordinated with the IDFG and partners.</p> <p>19. Clean up refuse (Bui et al. 2010).</p> <p>20. Eliminate or minimize corvid subsidies as practicable.</p> <p><b>Roads</b></p> <p>21. Utilize existing roads, or realignments of existing routes to the extent possible.</p> <p>22. Design roads to an appropriate standard no higher than necessary to accommodate their intended purpose.</p> <p>23. Do not issue ROWs or SUAs to counties on newly constructed energy or mineral development roads, unless for a temporary use consistent with all other terms and conditions included in this document.</p> <p>24. Establish speed limits on BLM and USFS system roads to reduce vehicle/wildlife collisions or design roads to be driven at slower speeds.</p> <p>25. Coordinate road construction and use among ROW or SUA holders.</p> <p>26. Construct road crossings at right angles to ephemeral drainages and stream crossings.</p> <p>27. Use dust abatement on roads and pads as necessary.</p> <p>28. Close and reclaim duplicate roads by restoring original landform and establishing desired vegetation.</p> <p>29. Locate roads to avoid priority areas and habitats as described in the Wildfire and Invasive Species Assessments to the extent practicable.</p> <p><b>Reclamation Activities</b></p> <p>30. Include objectives for ensuring habitat restoration to meet Greater Sage-Grouse habitat needs in reclamation practices/sites (Pyke 2011).</p> <p>31. Address post-reclamation management in the reclamation plan such that goals and objectives are to protect and improve Greater Sage-Grouse habitat needs.</p> <p>32. Maximize the area of interim reclamation on long-term access roads and well pads, including reshaping, topsoiling, and revegetating cut-and-fill slopes.</p> <p>33. Restore disturbed areas at final reclamation to the pre-disturbance landforms and desired plant community.</p>

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Appendix C (cont.)	<p>23. Ensure proposed sagebrush treatments are planned with full interdisciplinary input pursuant to NEPA and coordination with state fish and wildlife agencies, and that treatment acreage is conservative in the context of surrounding Greater Sage-Grouse seasonal habitats and landscape.</p> <p>24. Where appropriate, ensure that treatments are configured in a manner that promotes use by Greater Sage-Grouse.</p> <p>25. Where applicable, incorporate roads and natural fuel breaks into fuel break design.</p> <p>26. Power-wash all vehicles and equipment involved in fuels management activities, prior to entering the area, to minimize the introduction of undesirable and/or invasive plant species.</p> <p>27. Design vegetation treatments in areas of high fire frequency which facilitate firefighter safety, reduce the potential acres burned, and reduce the fire risk to Greater Sage-Grouse habitat. Additionally, develop maps for Greater Sage-Grouse habitat which spatially display existing fuels treatments that can be used to assist suppression activities.</p> <p>28. As funding and logistics permit, restore annual grasslands to a species composition characterized by perennial grasses, forbs, and shrubs or one of that referenced in land use planning documentation.</p> <p>29. Emphasize the use of native plant species, especially those from a warmer area of the species' current range, recognizing that non-native species may be necessary depending on the availability of native seed and prevailing site conditions.</p> <p>30. Remove standing and encroaching trees within at least 110 yards of occupied Greater Sage-Grouse leks and other habitats (e.g., nesting, wintering and brood rearing) to reduce the availability of perch sites for avian predators, as resources permit.</p> <p>31. Protect wildland areas from wildfire originating on private lands, infrastructure corridors, and recreational areas.</p> <p>32. Reduce the risk of vehicle- or human-caused wildfires and the spread of invasive species by installing fuel breaks and/or planting perennial vegetation (e.g., green-strips) paralleling road rights-of-way.</p> <p>33. Strategically place and maintain pre-treated strips/areas (e.g., mowing, herbicide application, etc.) to aid in controlling wildfire, should wildfire occur near PHMA or priority restoration areas (such as where investments in restoration have already been made).</p> <p>34. Design treatments to provide a break in fuel continuity in large, at-risk, expanses of continuous sagebrush. Use local knowledge of fire occurrence, spread patterns, and habitat values at risk to determine the proper placement and size of the fuel break.</p> <p>35. Use existing agreements with local, county, and state road departments to improve and maintain existing fuel breaks during routine road maintenance. Examples include: blading, mowing, disking, grading, and spraying roadside vegetation.</p> <p>36. Form partnerships with linear right-of-way holders to maintain fuel breaks, which reduce fuel continuity and serve to protect at-risk landscapes.</p>	<p>Specific (Applicable only to certain project types) Wildfire Suppression</p> <p>36. Compile district-level information into statewide Greater Sage-Grouse tool boxes. Tool boxes will contain maps, listing of resource advisors, contact information, local guidance, and other relevant information for each district, which will be aggregated into a statewide document.</p> <p>37. Provide localized maps to dispatch offices and extended attack incident commanders for use in prioritizing wildfire suppression resources and designing suppression tactics. The Fire Planning and Fuels Management Division (FA-600) hosts a webpage containing up-to-date maps, instruction memoranda, conservation measures, BMPs, and spatial data specific to fire operations and fuels management/Greater Sage-Grouse interactions. These resources can be accessed at: <a href="http://web.blm.gov/internal/fire/fpfm/sg/index.html">http://web.blm.gov/internal/fire/fpfm/sg/index.html</a>. Additional BLM Greater Sage-Grouse information can be found at: <a href="http://www.blm.gov/wo/st/en/prog/more/fish__wildlife_and/sage-grouse_conservation.html">http://www.blm.gov/wo/st/en/prog/more/fish__wildlife_and/sage-grouse_conservation.html</a>.</p> <p>38. Assign a resource advisor with Greater Sage-Grouse expertise, or who has access to Greater Sage-Grouse expertise, to all extended attack fires in or near Greater Sage-Grouse habitat areas. Prior to the fire season, provide training to Greater Sage-Grouse resource advisors on wildfire suppression organization, objectives, tactics, and procedures to develop a cadre of qualified individuals. Involve state wildlife agency expertise in fire operations through:</p> <ul style="list-style-type: none"><li>• instructing resource advisors during preseason trainings</li><li>• qualification as resource advisors</li><li>• coordination with resource advisors during fire incidents</li><li>• contributing to incident planning with information such as habitat features or other key data useful in fire decision making</li></ul> <p>39. At the onset of an emerging wildland fire, the Agency Administrators and Fire Management Officers will engage a local Resource Advisor to assess Greater Sage-Grouse habitat that may be affected by the fire or suppression activities.</p> <p>40. If complexity of the wildland fire warrants the activation of an Incident Management Team, locally refined information regarding important Greater Sage-Grouse habitat will be relayed during in brief and continually throughout the incident.</p> <p>41. On critical fire weather days, pre-position additional fire suppression resources to optimize a quick and efficient response in Greater Sage-Grouse habitat areas.</p> <p>42. As appropriate, utilize existing fuel breaks, such as roads or discrete changes in fuel type, as control lines in order to minimize fire spread.</p> <p>43. During periods of multiple fires, ensure line officers are involved in setting priorities.</p>	<p>34. Irrigate interim reclamation if necessary for establishing seedlings more quickly.</p> <p>35. Utilize mulching techniques to expedite reclamation and to protect soils.</p> <p>Specific (Applicable only to certain project types) Wildfire Suppression</p> <p>36. Compile district-level information into statewide Greater Sage-Grouse tool boxes. Tool boxes will contain maps, listing of resource advisors, contact information, local guidance, and other relevant information for each district, which will be aggregated into a statewide document.</p> <p>37. Provide localized maps to dispatch offices and extended attack incident commanders for use in prioritizing wildfire suppression resources and designing suppression tactics. The Fire Planning and Fuels Management Division (FA-600) hosts a webpage containing up-to-date maps, instruction memoranda, conservation measures, BMPs, and spatial data specific to fire operations and fuels management/Greater Sage-Grouse interactions. Internet websites: <a href="http://web.blm.gov/internal/fire/fpfm/sg/index.html">http://web.blm.gov/internal/fire/fpfm/sg/index.html</a> and <a href="http://www.blm.gov/wo/st/en/prog/more/fish__wildlife_and/sage-grouse_conservation.html">http://www.blm.gov/wo/st/en/prog/more/fish__wildlife_and/sage-grouse_conservation.html</a>.</p> <p>38. Assign a resource advisor with Greater Sage-Grouse expertise, or who has access to Greater Sage-Grouse expertise, to all extended attack fires in or near Greater Sage-Grouse habitat areas. Prior to the fire season, provide training to Greater Sage-Grouse resource advisors on wildfire suppression organization, objectives, tactics, and procedures to develop a cadre of qualified individuals. Involve state wildlife agency expertise in fire operations through:</p> <ul style="list-style-type: none"><li>• instructing resource advisors during preseason trainings</li><li>• qualification as resource advisors</li><li>• coordination with resource advisors during fire incidents</li><li>• contributing to incident planning with information such as habitat features or other key data useful in fire decision making</li></ul> <p>39. At the onset of an emerging wildland fire, the Agency Administrators and Fire Management Officers will engage a local Resource Advisor to assess Greater Sage-Grouse habitat that may be affected by the fire or suppression activities.</p> <p>40. If complexity of the wildland fire warrants the activation of an Incident Management Team, locally refined information regarding important Greater Sage-Grouse habitat will be relayed during in brief and continually throughout the incident.</p> <p>41. On critical fire weather days, pre-position additional fire suppression resources to optimize a quick and efficient response in Greater Sage-Grouse habitat areas.</p> <p>42. As appropriate, utilize existing fuel breaks, such as roads or discrete changes in fuel type, as control lines in order to minimize fire spread.</p> <p>43. During periods of multiple fires, ensure line officers are involved in setting priorities.</p>

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Appendix C (cont.)	<p>37. Use existing NEPA documentation and authorities, where possible, when conducting road right-of-way maintenance. In many instances, existing authorizations for roads or linear rights-of-way contain provisions for maintenance activities that could be implemented and incorporated into a vegetation and habitat protection strategy without requiring additional NEPA analysis. Document this with a Determination of NEPA Adequacy (DNA).</p> <p>38. Enter into agreements with road departments which may help fund the construction and maintenance of fuel breaks adjacent to roads, as funding permits.</p> <p>39. Spatially depict the locations of existing and planned fuel breaks in a landscape fuel break map and label each vegetation polygon for reference. Offices will make these maps available to suppression resources for use in fire operations.</p> <p>Vegetation Treatment</p> <p>40. Utilize available plant species based on their adaptation to the site when developing seed mixes (Lambert 2005; VegSpec).</p> <p>41. Utilizing the warmer component of a species' current range when selecting native species for restoration when available (Kramer and Havens 2009).</p> <p>42. Reduce annual grass densities and competition through herbicide, targeted grazing, tillage, prescribed fire, etc. (Pyke 2011).</p> <p>43. Reduce density and competition of introduced perennial grasses using appropriate techniques to accomplish this reduction (Pellant and Lysne 2005).</p> <p>44. Utilize techniques to introduce desired species to the site such as drill seeding, broadcast seeding followed by a seed coverage technique, such as harrowing, chaining or livestock trampling, and transplanting container or bare-root seedlings.</p> <p>45. Assess existing on-site vegetation to ascertain if enough desirable perennial vegetation exists to consider techniques to increase on-site seed production to facilitate an increase in density of desired species.</p> <p>46. Use site preparation techniques that retain existing desirable vegetation.</p> <p>47. Use "mother plant" techniques or planting of satellite populations of desirable plants to serve as seed sources.</p> <p>48. Utilize post-treatment control of annual grass and other invasive species.</p> <p>49. Utilize new tools and use of new science and research as it becomes available.</p> <p>50. Give higher priority to vegetation rehabilitation or manipulation projects that include:</p> <ul style="list-style-type: none"><li>• Sites where environmental variables contribute to improved chances for project success (Meinke et al. 2009).</li><li>• Areas where seasonal habitat is limiting Greater Sage-Grouse distribution and/or abundance (wintering areas, wet meadows and riparian areas, nesting areas, leks, etc.).</li><li>• Re-establish sagebrush cover in otherwise suitable Greater Sage-Grouse with consideration to local needs and conditions using the general priorities in the following order:</li></ul>	<p>44. To the extent possible, locate wildfire suppression facilities (i.e., base camps, spike camps, drop points, staging areas, heli-bases, etc.) in areas where physical disturbance to Greater Sage-Grouse habitat can be minimized. These include disturbed areas, grasslands, near roads/trails, or in other areas where there is existing disturbance or minimal sagebrush cover.</p> <p>45. Minimize burnout operations in key Greater Sage-Grouse habitat areas by constructing direct fireline whenever safe and practical to do so.</p> <p>46. Utilize retardant, mechanized equipment, and other available resources to minimize burned acreage during initial attack.</p> <p>47. As safety allows, conduct mop-up where the black adjoins unburned islands, dog legs, or other habitat features to minimize sagebrush loss.</p> <p>48. Adequately document fire operation activities in Greater Sage-Grouse habitat for potential follow-up coordination activities.</p> <p>Fuels Management</p> <p><i>Unless otherwise specified as part of the land use plan, consider the full array of fuels management treatment types (prescribed fire, mechanical, chemical, and biological) when implementing the following RDFs.</i></p> <p>49. Where applicable, design fuels treatment objectives to protect existing sagebrush ecosystems, modify fire behavior, restore native plants, and create landscape patterns that most benefit Greater Sage-Grouse habitat.</p> <p>50. Provide training to fuels treatment personnel on Greater Sage-Grouse biology, habitat requirements, and identification of areas utilized locally.</p> <p>51. Use burning prescriptions that minimize undesirable effects on vegetation or soils (e.g., minimize mortality of desirable perennial plant species and reduce risk of annual grass invasion).</p> <p>52. Ensure proposed sagebrush treatments are planned with full interdisciplinary input pursuant to NEPA and coordination with state fish and wildlife agencies, and that treatment acreage is conservative in the context of surrounding Greater Sage-Grouse seasonal habitats and landscape.</p> <p>53. Where appropriate, ensure that treatments are configured in a manner that promotes use by Greater Sage-Grouse.</p> <p>54. Where applicable, incorporate roads and natural fuel breaks into fuel break design.</p> <p>55. Design vegetation treatments in areas of high fire frequency that facilitate firefighter safety, reduce the potential acres burned, and reduce the fire risk to Greater Sage-Grouse habitat. Additionally, develop maps for Greater Sage-Grouse habitat that spatially display existing fuels treatments that can be used to assist suppression activities.</p> <p>56. As funding and logistics permit, restore annual grasslands to a species composition characterized by perennial grasses, forbs, and shrubs or one of that referenced in land use planning documentation.</p> <p>57. Emphasize the use of native plant species, especially those from a warmer area of the species' current range, recognizing that nonnative species may be necessary depending on the availability of native seed and prevailing site conditions.</p>	<p>44. To the extent possible, locate wildfire suppression facilities (i.e., base camps, spike camps, drop points, staging areas, heli-bases, etc.) in areas where physical disturbance to Greater Sage-Grouse habitat can be minimized. These include disturbed areas, grasslands, near roads/trails, or in other areas where there is existing disturbance or minimal sagebrush cover.</p> <p>45. Minimize burnout operations in key Greater Sage-Grouse habitat areas by constructing direct fireline whenever safe and practical to do so.</p> <p>46. Utilize retardant, mechanized equipment, and other available resources to minimize burned acreage during initial attack.</p> <p>47. As safety allows, conduct mop-up where the black adjoins unburned islands, dog legs, or other habitat features to minimize sagebrush loss.</p> <p>48. Adequately document fire operation activities in Greater Sage-Grouse habitat for potential follow-up coordination activities.</p> <p>Fuels Management</p> <p><i>Unless otherwise specified as part of the land use plan, consider the full array of fuels management treatment types (prescribed fire, mechanical, chemical, and biological) when implementing the following RDFs.</i></p> <p>49. Where applicable, design fuels treatment objectives to protect existing sagebrush ecosystems, modify fire behavior, restore native plants, and create landscape patterns that most benefit Greater Sage-Grouse habitat.</p> <p>50. Provide training to fuels treatment personnel on Greater Sage-Grouse biology, habitat requirements, and identification of areas utilized locally.</p> <p>51. Use burning prescriptions that minimize undesirable effects on vegetation or soils (e.g., minimize mortality of desirable perennial plant species and reduce risk of annual grass invasion).</p> <p>52. Ensure proposed sagebrush treatments are planned with full interdisciplinary input pursuant to NEPA and coordination with state fish and wildlife agencies, and that treatment acreage is conservative in the context of surrounding Greater Sage-Grouse seasonal habitats and landscape.</p> <p>53. Where appropriate, ensure that treatments are configured in a manner that promotes use by Greater Sage-Grouse.</p> <p>54. Where applicable, incorporate roads and natural fuel breaks into fuel break design.</p> <p>55. Design vegetation treatments in areas of high fire frequency that facilitate firefighter safety, reduce the potential acres burned, and reduce the fire risk to Greater Sage-Grouse habitat. Additionally, develop maps for Greater Sage-Grouse habitat that spatially display existing fuels treatments that can be used to assist suppression activities.</p> <p>56. As funding and logistics permit, restore annual grasslands to a species composition characterized by perennial grasses, forbs, and shrubs or one of that referenced in land use planning documentation.</p> <p>57. Emphasize the use of native plant species, especially those from a warmer area of the species' current range, recognizing that nonnative species may be necessary depending on the availability of native seed and prevailing site conditions.</p>

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Appendix C (cont.)	<ul style="list-style-type: none"><li>• Recently burned native areas</li><li>• Native grassland with suitable forb component</li><li>• Nonnative grassland with suitable forb component</li><li>• Recently converted annual grass areas</li><li>• Native grassland</li><li>• Nonnative grassland</li></ul> <ul style="list-style-type: none"><li>• Where desirable perennial bunchgrasses and/or forbs are deficient in existing sagebrush stands, use appropriate mechanical, aerial or other techniques to re-establish them. Examples include but are not limited to, use of a Lawson aerator with seeding, harrow or chain with seeding, drill seeding, hand planting plugs, aerial seeding or other appropriate technique.</li><li>• Cooperative efforts that may improve Greater Sage-Grouse habitat quality over multiple ownerships.</li><li>• Projects that may provide connectivity between suitable habitats or expand existing good quality habitats.</li><li>• Projects that address conifer encroachment into important Greater Sage-Grouse habitats. In general the priority for treatment is 1) Phase 1 (≤10% conifer cover), 2) Phase 2 (10-30%), and 3) Phase 3 (&gt;30%).</li><li>• Replacing stands of annual grasses within otherwise good quality habitats with desirable perennial species. Other factors that contribute to the importance of the restoration project in maintaining or improving Greater Sage-Grouse habitat.</li></ul> <p>51. When conducting vegetation treatments in areas inhabited or potentially inhabited by slickspot peppergrass (<i>Lepidium papilliferum</i>) follow the conservation measures in the applicable conservation agreement between Idaho BLM and US Fish and Wildlife Service (most recent version dated September 2014).</p> <p>Lands and Realty</p> <p>52. Where technically and financially feasible, bury distribution powerlines and communication lines within existing disturbance.</p> <p>53. Above-ground disturbance areas would be seeded with perennial vegetation as per vegetation management.</p> <p>54. Place infrastructure in already disturbed locations where the habitat has not been fully restored.</p> <p>55. Cluster disturbances, operations (fracturing stimulation, liquids gathering, etc.) and facilities as close as possible.</p> <p>56. Co-locate linear facilities within one mile of existing linear facilities.</p> <p>57. Micro-site linear facilities to reduce impacts on Greater Sage-Grouse habitats.</p> <p>58. Locate staging areas outside the Priority Habitat Management Areas to the extent possible.</p> <p>59. Consider collocating powerlines, flowlines and pipelines under or immediately adjacent to a road or adjacent to other pipelines first, before considering co-locating with other ROW.</p> <p>60. Restrict the construction of tall facilities and fences to the minimum number and amount needed.</p> <p>61. Use free standing structures where possible, to limit the use of guy wires. Where guy wires are necessary and appropriate bird collision diverters would be used, if doing so would not cause a human safety risk.</p>	<p>58. Remove standing and encroaching trees within at least 110 yards of occupied Greater Sage-Grouse leks and other habitats (e.g., nesting, wintering, and brood rearing) to reduce the availability of perch sites for avian predators, as resources permit.</p> <p>59. Protect wildland areas from wildfire originating on private lands, infrastructure corridors, and recreational areas.</p> <p>60. Maximize the benefit and minimize adverse impacts on Greater Sage-Grouse when designing fuel breaks. Additionally, look for ways to minimize costs associated with maintenance and construction of fuel breaks.</p> <ul style="list-style-type: none"><li>• Reduce the risk of vehicle- or human-caused wildfires and the spread of invasive species by installing fuel breaks and/or planting perennial vegetation (e.g., green-strips) paralleling road rights-of-way.</li><li>• Use existing agreements with local, county, and state road departments to improve and maintain existing fuel breaks during routine road maintenance. Examples include blading, mowing, disking, grading, and spraying roadside vegetation.</li><li>• Form partnerships with linear right-of-way holders to maintain fuel breaks, which reduce fuel continuity and serve to protect at-risk landscapes.</li><li>• Use existing NEPA documentation and authorities, where possible, when conducting road right-of-way maintenance. In many instances, existing authorizations for roads or linear rights-of-way contain provisions for maintenance activities that could be implemented and incorporated into a vegetation and habitat protection strategy without requiring additional NEPA analysis. Document this with a Determination of NEPA Adequacy (DNA).</li><li>• Enter into agreements with road departments that may help fund the construction and maintenance of fuel breaks adjacent to roads, as funding permits.</li><li>• Strategically place and maintain pre-treated strips/areas (e.g., mowing, herbicide application, etc.) to aid in controlling wildfire, should wildfire occur near PHMA or priority restoration areas (such as where investments in restoration have already been made).</li><li>• Design treatments to provide a break in fuel continuity in large, at-risk expanses of continuous sagebrush. Use local knowledge of fire occurrence, spread patterns, and habitat values at risk to determine the proper placement and size of the fuel break.</li></ul> <p>61. Spatially depict the locations of existing and planned fuel breaks in a landscape fuel break map and label each vegetation polygon for reference. Offices will make these maps available to suppression resources for use in fire operations.</p> <p>Vegetation Treatment</p> <p>62. Utilize available plant species based on their adaptation to the site when developing seed mixes (Lambert 2005; VegSpec).</p> <p>63. Consider utilizing the warmer component of a species' current range when selecting native species for restoration when available (Kramer and Havens 2009).</p>	<p>58. Remove standing and encroaching trees within at least 110 yards of occupied Greater Sage-Grouse leks and other habitats (e.g., nesting, wintering, and brood rearing) to reduce the availability of perch sites for avian predators, as resources permit.</p> <p>59. Protect wildland areas from wildfire originating on private lands, infrastructure corridors, and recreational areas.</p> <ul style="list-style-type: none"><li>• Maximize the benefit and minimize adverse impacts on Greater Sage-Grouse when designing fuel breaks. 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Appendix C (cont.)	<p>62. Place new utility developments (power lines, pipelines, etc.) and transportation routes in existing utility or transportation corridors.</p> <p>63. Construction and development activities should conform to seasonal restrictions.</p> <p>Fluid Mineral Leasing</p> <p>64. Use directional drilling and/or multi well-pads to reduce surface disturbance.</p> <p>65. Apply a phased development approach with concurrent reclamation.</p> <p>66. Place liquid gathering facilities outside of PHMAs. Have no tanks at well locations within PHMAs to minimize truck traffic and perching and nesting sites for ravens and raptors.</p> <p>67. Use remote monitoring techniques for production facilities and develop a plan to reduce the frequency of vehicle use (Lyon and Anderson 2003).</p> <p>68. Site and/or minimize linear ROWs or SUAs to reduce disturbance to sagebrush habitats.</p> <p>69. Design or site permanent structures which create movement (e.g. pump jack) to minimize impacts on Greater Sage-Grouse.</p> <p>70. Equip tanks and other above-ground facilities with structures or devices that discourage nesting of raptors and corvids.</p> <p>71. Control the spread and effects of non-native plant species (Gelbard and Belnap 2003, Bergquist et al. 2007, Evangelista et al. 2011). (E.g. by washing vehicles and equipment.)</p> <p>72. Restrict pit and impoundment construction to reduce or eliminate threats from West Nile virus (Doherty 2007).</p> <p>73. Remove or re-inject produced water to reduce habitat for mosquitoes that vector West Nile virus. If surface disposal of produced water continues, use the following steps for reservoir design to limit favorable mosquito habitat:</p> <ul style="list-style-type: none"><li>• Overbuild size of ponds for muddy and non-vegetated shorelines.</li><li>• Build steep shorelines to decrease vegetation and increase wave actions.</li><li>• Avoid flooding terrestrial vegetation in flat terrain or low lying areas.</li><li>• Construct dams or impoundments that restrict down slope seepage or overflow.</li><li>• Line the channel where discharge water flows into the pond with crushed rock.</li><li>• Construct spillway with steep sides and line it with crushed rock.</li><li>• Treat waters with larvicides to reduce mosquito production where water occurs on the surface</li></ul> <p>74. Require noise shields when drilling during the lek, nesting, brood-rearing, or wintering season.</p> <p>75. The BLM/Forest Service would work with proponents to limit project related noise where it would be expected to reduce functionality of habitats in Priority and Important Habitat Management Areas.</p> <p>76. The BLM/Forest Service would evaluate the potential for limitation of new noise sources on a case-by-case basis as appropriate.</p>	<p>64. Reduce annual grass densities and competition through herbicide, targeted grazing, tillage, prescribed fire, etc. (Pyke 2011).</p> <p>65. Reduce density and competition of introduced perennial grasses using appropriate techniques to accomplish this reduction (Pellant and Lysne 2005).</p> <p>66. Utilize effective techniques to introduce desired species to the site based on site-specific conditions (e.g. drill seeding, broadcast seeding followed by a seed coverage technique, such as harrowing, chaining, or incorporation by livestock trampling, and transplanting container or bare-root seedlings).</p> <p>67. Assess existing on-site vegetation to ascertain if enough desirable perennial vegetation exists to consider techniques to increase on-site seed production to facilitate an increase in density of desired species.</p> <p>68. Use site preparation techniques that retain existing desirable vegetation and biological soil crusts to the extent practicable.</p> <p>69. Use "mother plant" techniques or planting of satellite populations of desirable plants to serve as seed sources as appropriate.</p> <p>70. Utilize posttreatment control of annual grass and other invasive species.</p> <p>71. Give higher priority to vegetation rehabilitation or manipulation projects that include:</p> <ul style="list-style-type: none"><li>• Sites where environmental variables contribute to improved chances for project success (Meinke et al. 2009).</li><li>• Areas where seasonal habitat is limiting Greater Sage-Grouse distribution and/or abundance (wintering areas, wet meadows and riparian areas, nesting areas, leks, etc.).</li><li>• Reestablish sagebrush cover in otherwise suitable Greater Sage-Grouse with consideration to local needs and conditions using the general priorities in the following order:<ol style="list-style-type: none"><li>1. Recently burned native areas</li><li>2. Native grassland with suitable forb component</li><li>3. Nonnative grassland with suitable forb component</li><li>4. Recently converted annual grass areas</li><li>5. Native grassland</li><li>6. Nonnative grassland</li></ol></li><li>• Where desirable perennial bunchgrasses and/or forbs are deficient in existing sagebrush stands, use appropriate mechanical, aerial, or other techniques to reestablish them (e.g. a Lawson aerator with seeding, harrow or chain with seeding, drill seeding, hand planting plugs, aerial seeding, or other appropriate techniques).</li><li>• Cooperative efforts that may improve Greater Sage-Grouse habitat quality over multiple ownerships.</li><li>• Projects that may provide connectivity between suitable habitats or expand existing good quality habitats.</li><li>• Projects that address conifer encroachment into important Greater Sage-Grouse habitats. In general the priority for treatment is 1) Phase 1 (≤10% conifer cover), 2) Phase 2 (10-30%), and 3) Phase 3 (&gt;30%).</li><li>• Replacing stands of annual grasses within otherwise good quality habitats with desirable perennial species. Other factors that contribute to the importance of the restoration project in maintaining or improving Greater Sage-Grouse habitat.</li></ul>	<p>63. Reduce annual grass densities and competition through herbicide, targeted grazing, tillage, prescribed fire, etc. (Pyke 2011).</p> <p>64. Reduce density and competition of introduced perennial grasses using appropriate techniques to accomplish this reduction (Pellant and Lysne 2005).</p> <p>65. Utilize effective techniques to introduce desired species to the site based on site-specific conditions (e.g. drill seeding, broadcast seeding followed by a seed coverage technique, such as harrowing, chaining, or incorporation by livestock trampling, and transplanting container or bare-root seedlings).</p> <p>66. Assess existing on-site vegetation to ascertain if enough desirable perennial vegetation exists to consider techniques to increase on-site seed production to facilitate an increase in density of desired species.</p> <p>67. 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Appendix C (cont.)	<p>77. Limit noise sources that would be expected to negatively impact populations in Priority and Important Habitat Management Areas and continue to support the establishment of ambient baseline noise levels for occupied leks in Priority Habitat Management Areas.</p> <p>78. As additional research and information emerges, specific new limitations appropriate to the type of projects being considered would be evaluated and appropriate limitations would be implemented where necessary to minimize potential for noise impacts on Greater Sage-Grouse core population behavioral cycles.</p> <p>79. As new research is completed, new specific limitations would be coordinated with the IDFG and MT FWP and partners.</p> <p>80. Fit transmission towers with anti-perch devices (Lammers and Collopy 2007).</p> <p>81. Require Greater Sage-Grouse-safe fences.</p> <p>82. Locate new compressor stations outside Priority Habitat Management Areas and design them to reduce noise that may be directed towards Priority Habitat Management Areas.</p> <p>83. Clean up refuse (Bui et al. 2010).</p> <p>84. Locate man camps outside of priority Greater Sage-Grouse habitats.</p> <p>85. Consider using oak (or other material) mats for drilling activities to reduce vegetation disturbance and for roads between closely spaced wells to reduce soil compaction and maintain soil structure to increase likelihood of vegetation reestablishment following drilling.</p> <p>86. Use only closed-loop systems for drilling operations and no reserve pits.</p> <p>87. Cover (e.g., fine mesh netting or use other effective techniques) all drilling and production pits and tanks regardless of size to reduce Greater Sage-Grouse mortality.</p> <p>Roads</p> <p>88. Utilize existing roads, or realignments of existing routes to the extent possible.</p> <p>89. Design roads to an appropriate standard no higher than necessary to accommodate their intended purpose.</p> <p>90. Do not issue ROWs or SUAs to counties on newly constructed energy or mineral development roads, unless for a temporary use consistent with all other terms and conditions included in this document.</p> <p>91. Establish speed limits on BLM and FS system roads to reduce vehicle/wildlife collisions or design roads to be driven at slower speeds.</p> <p>92. Coordinate road construction and use among ROW or SUA holders.</p> <p>93. Construct road crossings at right angles to ephemeral drainages and stream crossings.</p> <p>94. Use dust abatement on roads and pads.</p> <p>95. Close and reclaim duplicate roads by restoring original landform and establishing desired vegetation.</p> <p>Roads Specific to Priority and Important Habitat Management Areas</p> <p>96. Locate roads to avoid priority areas and habitats as described in the Wildfire and Invasive Species Assessments.</p>	<p>72. When conducting vegetation treatments in areas inhabited or potentially inhabited by slickspot peppergrass (<i>Lepidium papilliferum</i>), follow the conservation measures in the applicable conservation agreement between Idaho BLM and US Fish and Wildlife Service (most recent version dated September 2014).</p> <p>Lands and Realty</p> <p>73. Where technically and financially feasible, bury distribution powerlines and communication lines within existing disturbance.</p> <p>74. Use free standing structures where possible, to limit the use of guy wires. Where guy wires are necessary and appropriate, bird collision diverters would be used, if doing so would not cause a human safety risk.</p> <p>75. Place new utility developments (power lines, pipelines, etc.) and transportation routes in existing utility or transportation corridors.</p> <p>76. Fit transmission towers with anti-perch devices (Lammers and Collopy 2007).</p> <p>Fluid Mineral Leasing</p> <p>77. Use directional drilling and/or multi well-pads to reduce surface disturbance.</p> <p>78. Apply a phased development approach with concurrent reclamation.</p> <p>79. Place liquid gathering facilities outside of PHMA. Have no tanks at well locations within PHMA to minimize truck traffic and perching and nesting sites for ravens and raptors.</p> <p>80. Use remote monitoring techniques for production facilities and develop a plan to reduce the frequency of vehicle use (Lyon and Anderson 2003).</p> <p>81. Site and/or minimize linear ROWs or SUAs to reduce disturbance to sagebrush habitats.</p> <p>82. Design or site permanent structures that create movement (e.g. pump jack) to minimize impacts on Greater Sage-Grouse.</p> <p>83. Equip tanks and other above-ground facilities with structures or devices that discourage nesting of raptors and corvids.</p> <p>84. Restrict pit and impoundment construction to reduce or eliminate threats from West Nile virus (Doherty 2007).</p> <p>85. Remove or re-inject produced water to reduce habitat for mosquitoes that vector West Nile virus as practicable. If surface disposal of produced water continues, use the following steps for reservoir design to limit favorable mosquito habitat:</p> <ul style="list-style-type: none"><li>• Overbuild size of ponds for muddy and non-vegetated shorelines.</li><li>• Build steep shorelines to decrease vegetation and increase wave actions.</li><li>• Avoid flooding terrestrial vegetation in flat terrain or low-lying areas.</li><li>• Construct dams or impoundments that restrict down slope seepage or overflow.</li><li>• Line the channel where discharge water flows into the pond with crushed rock.</li><li>• Construct spillway with steep sides and line it with crushed rock.</li><li>• Treat waters with larvicides to reduce mosquito production where water occurs on the surface.</li></ul>	<p>71. 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Appendix C (cont.)	<p>97. Establish trip restrictions (Lyon and Anderson 2003) or minimization through use of telemetry and remote well control (e.g., Supervisory Control and Data Acquisition).</p> <p>98. Restrict vehicle traffic to only authorized users on newly constructed routes (using signage, gates, etc.)</p> <p>Reclamation Activities</p> <p>99. Include objectives for ensuring habitat restoration to meet Greater Sage-Grouse habitat needs in reclamation practices/sites (Pyke 2011).</p> <p>100. Address post reclamation management in reclamation plan such that goals and objectives are to protect and improve Greater Sage-Grouse habitat needs.</p> <p>101. Maximize the area of interim reclamation on long-term access roads and well pads, including reshaping, topsoiling and revegetating cut-and-fill slopes.</p> <p>102. Restore disturbed areas at final reclamation to the pre-disturbance landforms and desired plant community.</p> <p>103. Irrigate interim reclamation if necessary for establishing seedlings more quickly.</p> <p>104. Utilize mulching techniques to expedite reclamation and to protect soils.</p> <p>Grazing</p> <p>105. Avoid building new wire fences within 2 km of occupied leks (Stevens 2011). If this is not feasible, ensure that high risk segments are marked with collision diverter devices or as latest science indicates.</p> <p>106. Place new, taller structures, including corrals, loading facilities, water storage tanks, windmills, out of line of sight or at least one kilometer (preferably 3 km) from occupied leks, where such structures would increase the risk of avian predation.</p> <p>107. Utilize temporary fencing (e.g., ESR, drop down fencing) where feasible and appropriate to meet management objectives.</p> <p>108. Fence wetlands (e.g., springs, seeps, wet meadows and/or riparian areas) where appropriate, to maintain or foster progress toward Proper Functioning Condition and to facilitate management of Greater Sage-Grouse habitat objectives. Where constructing fences or exclosures to improve riparian and/or upland management, incorporate fence marking or other BMPs/RDFs as appropriate.</p> <p>109. During lekking periods, as determined locally (approximately March 15-May 1 in lower elevations and March 25-May 15 in higher elevations), livestock trailing will be avoided to the extent possible within 1 km (0.62 mile) of occupied leks between 6:00 p.m. and 9:00 a.m. to avoid disturbance to lekking and roosting Greater Sage-Grouse. Over-nighting, watering and sheep bedding locations on public lands must be at least 1 km from occupied leks during the lekking season to reduce disturbance from sheep, human activity and guard animals.</p> <p>110. Work with permittees in locating sheep over-nighting, watering and sheep bedding locations to minimize impacts on Greater Sage-Grouse seasonal habitats.</p>	<p>86. Require noise shields when drilling during the lek, nesting, brood-rearing, or wintering season.</p> <p>87. The BLM/Forest Service would work with proponents to limit project-related noise where it would be expected to reduce functionality of habitats in PHMA and IHMA.</p> <p>88. Limit noise sources that would be expected to negatively impact populations in PHMA and IHMA and continue to support the establishment of ambient baseline noise levels for occupied leks in PHMA.</p> <p>89. As additional research and information emerges, specific new limitations appropriate to the type of projects being considered would be evaluated and appropriate limitations would be implemented where necessary to minimize potential for noise impacts on Greater Sage-Grouse core population behavioral cycles.</p> <p>90. Locate new compressor stations outside PHMA and design them to reduce noise that may be directed toward PHMA.</p> <p>91. Locate man camps outside of priority Greater Sage-Grouse habitats.</p> <p>92. Consider using oak (or other material) mats for drilling activities to reduce vegetation disturbance and for roads between closely spaced wells to reduce soil compaction and maintain soil structure to increase likelihood of vegetation reestablishment following drilling.</p> <p>93. Use only closed-loop systems for drilling operations and no reserve pits.</p> <p>94. Cover (e.g., fine mesh netting or use other effective techniques) all drilling and production pits and tanks regardless of size to reduce Greater Sage-Grouse mortality.</p> <p>95. Establish trip restrictions (Lyon and Anderson 2003) or minimization through use of telemetry and remote well control (e.g., Supervisory Control and Data Acquisition).</p> <p>96. Restrict vehicle traffic to only authorized users on newly constructed routes (using signage, gates, etc.)</p> <p>Grazing</p> <p>97. Avoid building new wire fences within 2 kilometers of occupied leks (Stevens 2011). If this is not feasible, ensure that high-risk segments are marked with collision diverter devices or as latest science indicates.</p> <p>98. Place new, taller structures, including corrals, loading facilities, water storage tanks, and windmills, out of line of sight or at least 1 kilometer (preferably 3 kilometers) from occupied leks, where such structures would increase the risk of avian predation.</p> <p>99. Utilize temporary fencing (e.g., ESR and drop down fencing) where feasible and appropriate to meet management objectives.</p> <p>100. Fence wetlands (e.g., springs, seeps, wet meadows, and/or riparian areas) where appropriate, to maintain or foster progress toward proper functioning condition and to facilitate management of Greater Sage-Grouse habitat objectives. Where constructing fences or exclosures to improve riparian and/or upland management, incorporate fence marking or other BMPs/RDFs as appropriate.</p>	<p>85. Require noise shields when drilling during the lek, nesting, brood-rearing, or wintering season.</p> <p>86. The BLM/Forest Service would work with proponents to limit project-related noise where it would be expected to reduce functionality of habitats in PHMA and IHMA.</p> <p>87. Limit noise sources that would be expected to negatively impact populations in PHMA and IHMA and continue to support the establishment of ambient baseline noise levels for occupied leks in PHMA.</p> <p>88. As additional research and information emerges, specific new limitations appropriate to the type of projects being considered would be evaluated and appropriate limitations would be implemented where necessary to minimize potential for noise impacts on Greater Sage-Grouse core population behavioral cycles.</p> <p>89. Locate new compressor stations outside PHMA and design them to reduce noise that may be directed toward PHMA.</p> <p>90. Locate man camps outside of priority Greater Sage-Grouse habitats.</p> <p>91. Consider using oak (or other material) mats for drilling activities to reduce vegetation disturbance and for roads between closely spaced wells to reduce soil compaction and maintain soil structure to increase likelihood of vegetation reestablishment following drilling.</p> <p>92. Use only closed-loop systems for drilling operations and no reserve pits.</p> <p>93. Cover (e.g., fine mesh netting or use other effective techniques) all drilling and production pits and tanks regardless of size to reduce Greater Sage-Grouse mortality.</p> <p>94. Establish trip restrictions (Lyon and Anderson 2003) or minimization through use of telemetry and remote well control (e.g., Supervisory Control and Data Acquisition).</p> <p>95. Restrict vehicle traffic to only authorized users on newly constructed routes (using signage, gates, etc.)</p> <p>Grazing</p> <p><del>97. Avoid building new wire fences within 2 kilometers of occupied leks (Stevens 2011). If this is not feasible, ensure that high-risk segments are marked with collision diverter devices or as latest science indicates.</del></p> <p><del>98. Place new, taller structures, including corrals, loading facilities, water storage tanks, and windmills, out of line of sight or at least 1 kilometer (preferably 3 kilometers) from occupied leks, where such structures would increase the risk of avian predation.</del></p> <p><del>100. Fence wetlands (e.g., springs, seeps, wet meadows, and/or riparian areas) where appropriate, to maintain or foster progress toward proper functioning condition and to facilitate management of Greater Sage-Grouse habitat objectives. Where constructing fences or exclosures to improve riparian and/or upland management, incorporate fence marking or other BMPs/RDFs as appropriate.</del></p> <p><del>103. Design new spring developments in Greater Sage-Grouse habitat to maintain or enhance the free flowing characteristics of springs and wet meadows. Modify developed springs, seeps, and associated pipelines to maintain the continuity of the predevelopment riparian area within priority Greater Sage-Grouse habitat where practicable and appropriate.</del></p>



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Appendix C (cont.)	<p>I 11. When trailing livestock during the lekking or nesting season, use roads or existing trails, to the extent possible to reduce disturbance to roosting, lekking or nesting Greater Sage-Grouse.</p> <p>I 12. Design new spring developments in Greater Sage-Grouse habitat to maintain or enhance the free flowing characteristics of springs and wet meadows. Modify developed springs, seeps and associated pipelines to maintain the continuity of the predevelopment riparian area within priority Greater Sage-Grouse habitat where necessary.</p> <p>I 13. Install ramps in new and existing livestock troughs and open water storage tanks to facilitate the use of and escape from troughs by Greater Sage-Grouse and other wildlife.</p> <p>West Nile Virus</p> <p>I 14. Construct water return features and maintain functioning float valves to prohibit water from being spilled on the ground surrounding the trough and/or tank and return water to the original water source, to the extent practicable.</p> <p>I 15. Minimize the construction of new ponds or reservoirs except as needed to meet important resource management and/or restoration objectives.</p> <p>I 16. Develop and maintain non-pond/reservoir watering facilities, such as troughs and bottomless tanks, to provide livestock water.</p> <p>I 17. For most spring developments or wells, mosquito breeding habitat usually is not an issue. Flowing cold (less than 50° Fahrenheit) water and steep sides of the stock tanks are not conducive for egg laying or larvae production. If flows are low, the water is warm, or moss production is an issue in the tank, mosquito breeding habitat could exist in the tank.</p> <p>I 18. Maintenance of healthy wetlands at spring sources helps control mosquitoes and their larvae by providing habitat for natural predators such as birds, dragonflies and amphibians. Protecting the wetland at the spring source with a fence is an option to consider.</p> <p>I 19. Clean and drain stock tanks before the season starts. If never cleaned or drained, many tanks will fill with silt or debris causing warmer water and heavy vegetation growth conducive to mosquito reproduction.</p> <p>I 20. Draining tanks after the period of use is completed, particularly in warmer weather, also reduces potential habitat by eliminating stagnant standing water.</p> <p>I 21. Maintain a properly functioning overflow to prevent water from flowing onto the pad and surrounding area, to eliminate or minimize pooling of water that is attractive to breeding mosquitoes.</p> <p>I 22. Clean or deepen overflow ponds to maintain colder temperatures to reduce mosquito habitat.</p> <p>I 23. Install and maintain float valves on stock tank fill pipes to minimize overflow</p> <p>I 24. Harden stock tank pads to reduce tracks that can potentially hold water where mosquitoes may breed.</p> <p>I 25. Build ponds with steep shorelines to reduce shallow water (&gt;60 cm) and aquatic vegetation around the perimeter of impoundments to deter colonizing by mosquitos (Knight et al. 2003, cited in NTT report page 61).</p>	<p>I 01. During lekking periods, as determined locally (approximately March 15-May 1 in lower elevations and March 25-May 15 in higher elevations), livestock trailing will be avoided to the extent possible within 1 kilometer (0.62 miles) of occupied leks between 6:00 p.m. and 9:00 a.m. to avoid disturbance to lekking and roosting Greater Sage-Grouse. Over-nighting, watering, and sheep bedding locations on public lands must be at least 1 kilometer from occupied leks during the lekking season to reduce disturbance from sheep, human activity, and guard animals. When trailing livestock during the lekking or nesting season, use roads or existing trails to the extent possible.</p> <p>I 02. Work with permittees in locating sheep over-nighting, watering, and sheep bedding locations to minimize impacts on Greater Sage-Grouse seasonal habitats.</p> <p>I 03. Design new spring developments in Greater Sage-Grouse habitat to maintain or enhance the free flowing characteristics of springs and wet meadows. Modify developed springs, seeps, and associated pipelines to maintain the continuity of the predevelopment riparian area within priority Greater Sage-Grouse habitat where practicable and appropriate.</p> <p>I 04. Install ramps in new and existing livestock troughs and open water storage tanks to facilitate the use of and escape from troughs by Greater Sage-Grouse and other wildlife.</p> <p>West Nile Virus</p> <p>I 05. Minimize the construction of new ponds or reservoirs except as needed to meet important resource management and/or restoration objectives.</p> <p>I 06. Maintenance of healthy wetlands at spring sources helps control mosquitoes and their larvae by providing habitat for natural predators such as birds, dragonflies, and amphibians. Protecting the wetland at the spring source with a fence is an option to consider.</p> <p>I 07. For most spring developments or wells, mosquito breeding habitat usually is not an issue. Flowing cold (less than 50° Fahrenheit) water and steep sides of the stock tanks are not conducive for egg laying or larvae production. If flows are low, the water is warm, or moss production is an issue in the tank, mosquito breeding habitat could exist in the tank.</p> <p>Maintain stock tanks and ponds/reservoirs such that they are not conducive to mosquito reproduction (little or no silt, algae, or vegetation accumulation). Consider the following options as appropriate:</p> <ul style="list-style-type: none"><li>Construct water return features and maintain functioning float valves to prohibit water from being spilled on the ground surrounding the trough and/or tank and return water to the original water source, to the extent practicable.</li><li>Drain and clean tanks at the end of the season to prevent them from filling with fill with silt or debris, causing warmer water and heavy vegetation growth conducive to mosquito reproduction.</li><li>Draining tanks after the period of use is completed, particularly in warmer weather, also reduces potential habitat by eliminating stagnant standing water.</li></ul>	<p><del>I 04. Install ramps in new and existing livestock troughs and open water storage tanks to facilitate the use of and escape from troughs by Greater Sage-Grouse and other wildlife.</del></p> <p>96. Utilize temporary range infrastructure (troughs, fences, supplements) <del>fencing (e.g., ESR and drop-down fencing)</del> where feasible and appropriate to meet management objectives.</p> <p>97. During lekking periods, as determined locally (approximately March 15-May 1 in lower elevations and March 25-May 15 in higher elevations), livestock trailing will be avoided to the extent possible within 1 kilometer (0.62 miles) of occupied leks between 6:00 p.m. and 9:00 a.m. to avoid disturbance to lekking and roosting Greater Sage-Grouse. Over-nighting, watering, and sheep bedding locations on public lands will be avoided to the extent possible by at least 1 kilometer from occupied leks during the lekking season to reduce disturbance from sheep, human activity, and guard animals. When trailing livestock during the lekking or nesting season, use roads or existing trails to the extent possible.</p> <p>98. Work with permittees in locating sheep over-nighting, watering, and sheep bedding locations to minimize impacts on Greater Sage-Grouse seasonal habitats.</p> <p>Adaptive Management Measures for Livestock Grazing (Appendix J from Idaho Executive Order 2015-04): In the development, administration, and implementation of grazing management programs, flexible grazing management practices over relatively large landscapes can be utilized, singly or in combination, to help successfully achieve desired conditions through BMPs such as, but not limited to:</p> <p>99. Employ grazing management systems that ensure adequate nesting and early brood rearing habitat within the breeding landscape.</p> <p>100. When use-pattern mapping or monitoring demonstrates an opportunity to adjust livestock distribution to benefit occupied Greater Sage-Grouse breeding habitat, include as appropriate herding, salting, and water-source management (e.g., turning troughs/pipelines on/off, extending pipelines/moving troughs) in grazing programs.</p> <p>101. If available and feasible, utilize exotic perennial grass seedings and/or annual grasslands to meet desired conditions or outcomes across the landscape of use of occupied Greater Sage-Grouse habitat.</p> <p>102. Modify authorized seasons of use within grazing permits to provide greater flexibility in managing livestock for the benefit of Greater Sage-Grouse.</p> <p>103. Where appropriate, maintain herbaceous vegetation at the end of the growing/grazing season to contribute to nesting and brood-rearing habitat quality during the coming nesting season. Table 2.2 [in the 2015 Final EIS].</p> <p>104. Ensure that permittees are informed of management and movement requirements related to avoidance of recent burns, habitat rehabilitation, or other restoration sites.</p> <p>105. Manage livestock grazing of riparian areas, meadows, springs, and seeps in a manner that promotes vegetative structure and composition appropriate to the site. In some cases enclosure fencing may be an option; however, recognize the availability and quality of desired herbaceous species may be improved by periodic grazing use of the enclosure.</p>

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Appendix C (cont.)	<p>126. Consider removing and controlling trees and shrubs to reduce shade and wind barriers on pit and reservoir shorelines if not needed for wildlife, fish, or recreational values.</p> <p>127. Impoundments that remain accessible to livestock and wildlife can cause tracking and nutrient enrichment from manure which can create favorable mosquito breeding habitat. Where this is a concern, it may be desirable to fence the reservoir and pipe the water to a tank.</p> <p>128. Construct dams or impoundments that minimize down-slope seepage or overflow. Seepage and overflow results in down-grade accumulation of vegetated shallow water areas that support breeding mosquitoes.</p> <p>129. On ponds and reservoirs with enough depth and volume, introduce native fish species, which feed on mosquito larvae.</p> <p>130. Line the overflow of a dam's spillway with crushed rock and constructing the spillway with steep sides to preclude the accumulation of shallow water and vegetation to reduce mosquito habitat.</p> <p>131. Where an existing reservoir has filled with silt, consider cleaning to reduce shallow water habitat conducive to mosquito reproduction.</p> <p>132. During confirmed West Nile virus outbreaks in Greater Sage-Grouse habitat, consider larvicide applications.</p> <p>Travel Management</p> <p>133. Designate or design routes to direct use away from priority areas identified in Wildfire and Invasive Species Assessments and still provide for high-quality and sustainable travel routes and administrative access, legislatively mandated requirements, and commercial needs</p> <p>Recreation</p> <p>134. Direct use away from Greater Sage-Grouse priority areas as described in the Wildfire and Invasive Species Assessments.</p> <p>135. Eliminate or minimize external food sources for corvids.</p> <p>136. Avoid development of new campgrounds or recreation facilities in nesting habitat.</p>	<ul style="list-style-type: none"><li>• Maintain a properly functioning overflow to prevent water from flowing onto the pad and surrounding area, to eliminate or minimize pooling of water that is attractive to breeding mosquitoes.</li><li>• Clean or deepen overflow ponds to maintain colder temperatures to reduce mosquito habitat.</li><li>• Install and maintain float valves on stock tank fill pipes to minimize overflow.</li><li>• Harden stock tank pads to reduce tracks that can potentially hold water where mosquitoes may breed.</li><li>• Build ponds with steep shorelines to reduce shallow water (&gt;60 centimeters) and aquatic vegetation around the perimeter of impoundments to deter colonizing by mosquitos (Knight et al. 2003, cited in NTT report page 61).</li><li>• Consider removing and controlling trees and shrubs to reduce shade and wind barriers on pit and reservoir shorelines if not needed for wildlife, fish, or recreational values.</li><li>• Impoundments that remain accessible to livestock and wildlife can cause tracking and nutrient enrichment from manure that can create favorable mosquito breeding habitat. Where this is a concern, it may be desirable to fence the reservoir and pipe the water to a tank.</li><li>• Construct dams or impoundments that minimize down-slope seepage or overflow. Seepage and overflow results in down-grade accumulation of vegetated shallow water areas that support breeding mosquitoes.</li><li>• On ponds and reservoirs with enough depth and volume, consider introducing native fish species, which feed on mosquito larvae.</li><li>• Line the overflow of a dam's spillway with crushed rock and construct the spillway with steep sides to preclude the accumulation of shallow water and vegetation to reduce mosquito habitat.</li><li>• Where an existing reservoir has filled with silt, consider cleaning to reduce shallow water habitat conducive to mosquito reproduction.</li><li>• Develop and maintain non-pond/reservoir watering facilities, such as troughs and bottomless tanks, to provide livestock water.</li><li>• During confirmed West Nile virus outbreaks in Greater Sage-Grouse habitat, consider larvicide applications.</li></ul> <p>Travel Management</p> <p>108. Designate or design routes to direct use away from priority areas identified in Wildfire and Invasive Species Assessments and still provide for high-quality and sustainable travel routes and administrative access, legislatively mandated requirements, and commercial needs.</p> <p>Recreation</p> <p>109. Direct use away from seasonally important Greater Sage-Grouse habitats as practicable.</p> <p>110. Eliminate or minimize external food sources for corvids.</p> <p>111. Avoid development of new campgrounds or recreation facilities in nesting habitat as practicable.</p>	<p>106. Implement management actions (grazing decisions, allotment management plan/conservation plan development, or other agreements) to modify grazing management to meet seasonal Greater Sage-Grouse desired conditions. Employ proper grazing management by providing flexibility in scheduling the intensity, timing, duration and frequency of livestock grazing use over time that best promotes management objectives. During drought periods, prioritize evaluating effects of drought in the PHMA relative to grouse needs for food and cover. Ensure that post-drought management allows for vegetation recovery, based on ecological potential, that meets Greater Sage-Grouse needs in priority Greater Sage-Grouse habitat areas. During periods of higher than average precipitation, prioritize effects of the increase in available forage and fuels.</p> <p>107. When using salt or mineral supplements: a) place them in existing disturbed sites, areas with reduced sagebrush cover—e.g., seedings or cheatgrass sites—to reduce impacts on Greater Sage-Grouse breeding habitat, b) where feasible use salts or mineral supplements to improve management of livestock for the benefit of Greater Sage-Grouse habitat.</p> <p>108. In general, avoid constructing new fences in high and moderate risk areas (Stevens 2013). If this is not feasible, ensure that high and moderate-risk segments are marked with collision diverter devices or as latest science indicates. Where feasible, place new, taller structures, such as corrals, loading facilities, water-storage tanks, windmills, etc., at least as far as the corresponding buffer set back from occupied leks for the corresponding HMA to reduce opportunities for avian predators. Careful consideration, based on local conditions (e.g. topography) should also be given to the placement of new fences or rangeland infrastructure near other important seasonal habitats (winter-use areas, movement corridors etc.) to reduce potential impacts.</p> <p>109. New spring developments in Greater Sage-Grouse habitat should be designed to maintain or enhance the free-flowing characteristics of springs and wet meadows. Analyze developed springs, seeps and associated pipelines to determine if modifications are necessary to maintain the continuity of the predevelopment riparian area within Greater Sage-Grouse habitat. Make modifications where necessary, considering impacts on other water users when such considerations are neutral or beneficial to Greater Sage-Grouse.</p> <p>110. Ensure that new and existing livestock troughs and open water storage tanks are fitted with ramps to facilitate the use of and escape from troughs by Greater Sage-Grouse and other wildlife. Do not use floating boards or similar objects, as these are too unstable and are ineffective.</p> <p>111. Identify and when feasible, establish strategically located forage reserves focusing on areas unsuitable for Greater Sage-Grouse habitat restoration or lower priority habitat restoration areas.</p> <p>112. Consider initiating vegetative management projects where sagebrush canopy cover exceeds desired conditions to promote a perennial grass and forb understory.</p>

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Appendix C (cont.)	(see above)	(see above)	<p>West Nile Virus</p> <p>I 13. Minimize the construction of new ponds or reservoirs except as needed to meet important resource management and/or restoration objectives.</p> <p>I 14. Maintenance of healthy wetlands at spring sources helps control mosquitoes and their larvae by providing habitat for natural predators such as birds, dragonflies, and amphibians. Protecting the wetland at the spring source with a fence is an option to consider.</p> <p>I 15. For most spring developments or wells, mosquito breeding habitat usually is not an issue. Flowing cold (less than 50° Fahrenheit) water and steep sides of the stock tanks are not conducive for egg laying or larvae production. If flows are low, the water is warm, or moss production is an issue in the tank, mosquito breeding habitat could exist in the tank.</p> <p>Maintain stock tanks and ponds/reservoirs such that they are not conducive to mosquito reproduction (little or no silt, algae, or vegetation accumulation). Consider the following options as appropriate:</p> <ul style="list-style-type: none"><li>• Construct water return features and maintain functioning float valves to prohibit water from being spilled on the ground surrounding the trough and/or tank and return water to the original water source, to the extent practicable.</li><li>• Drain and clean tanks at the end of the season to prevent them from filling with fill with silt or debris, causing warmer water and heavy vegetation growth conducive to mosquito reproduction.</li><li>• Draining tanks after the period of use is completed, particularly in warmer weather, also reduces potential habitat by eliminating stagnant standing water.</li><li>• Maintain a properly functioning overflow to prevent water from flowing onto the pad and surrounding area, to eliminate or minimize pooling of water that is attractive to breeding mosquitoes.</li><li>• Clean or deepen overflow ponds to maintain colder temperatures to reduce mosquito habitat.</li><li>• Install and maintain float valves on stock tank fill pipes to minimize overflow.</li><li>• Harden stock tank pads to reduce tracks that can potentially hold water where mosquitoes may breed.</li><li>• Build ponds with steep shorelines to reduce shallow water (&gt;60 centimeters) and aquatic vegetation around the perimeter of impoundments to deter colonizing by mosquitos (Knight et al. 2003, cited in NTT report page 61).</li><li>• Consider removing and controlling trees and shrubs to reduce shade and wind barriers on pit and reservoir shorelines if not needed for wildlife, fish, or recreational values.</li><li>• Impoundments that remain accessible to livestock and wildlife can cause tracking and nutrient enrichment from manure that can create favorable mosquito breeding habitat. Where this is a concern, it may be desirable to fence the reservoir and pipe the water to a tank.</li></ul>

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Appendix C (cont.)	(see above)	(see above)	<ul style="list-style-type: none"><li>• Construct dams or impoundments that minimize down-slope seepage or overflow. Seepage and overflow results in down-grade accumulation of vegetated shallow water areas that support breeding mosquitoes.</li><li>• On ponds and reservoirs with enough depth and volume, consider introducing native fish species, which feed on mosquito larvae.</li><li>• Line the overflow of a dam’s spillway with crushed rock and construct the spillway with steep sides to preclude the accumulation of shallow water and vegetation to reduce mosquito habitat.</li><li>• Where an existing reservoir has filled with silt, consider cleaning to reduce shallow water habitat conducive to mosquito reproduction.</li><li>• Develop and maintain non-pond/reservoir watering facilities, such as troughs and bottomless tanks, to provide livestock water.</li><li>• During confirmed West Nile virus outbreaks in Greater Sage-Grouse habitat, consider larvicide applications.</li></ul> <p>Travel Management</p> <p>I 16. Designate or design routes to direct use away from priority areas identified in Wildfire and Invasive Species Assessments and still provide for high-quality and sustainable travel routes and administrative access, legislatively mandated requirements, and commercial needs.</p> <p>Recreation</p> <p>I 17. Direct use away from seasonally important Greater Sage-Grouse habitats as practicable.</p> <p>I 18. Eliminate or minimize external food sources for corvids.</p> <p>I 19. Avoid development of new campgrounds or recreation facilities in nesting habitat as practicable.</p>

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Appendix E	Appendix E remains as it is in the 2015 ARMPA	<p>Delete a portion of Appendix E [of the 2015 Final EIS], Starting on Page E-10 at the bullet titled Derivation of the Disturbance Formula through page E-26.</p> <p>Delete the portion of Appendix E [of the 2015 Final EIS] that deals with the project-level disturbance cap and the density cap.</p>	<p>Delete a portion of Appendix E, [of the 2015 Final EIS] Starting on Page E-10 at the bullet titled Derivation of the Disturbance Formula through page E-26.</p> <p>Delete the portion of Appendix E [of the 2015 Final EIS] that deals with the project-level disturbance cap and the density cap.</p> <p><b>E.6 Part VI – No Net Loss Criterion for Anthropogenic Disturbance</b> This part of the appendix provides guidelines for the implementation of the “no net loss” criterion for proposed anthropogenic disturbance (e.g., MD SSS 30.c.). The following steps identify the screening process by which BLM will review proposed activities in PHMA, IHMA, and GHMA. These steps commence after the BLM has determined that the proposal for authorization of use is adequate and consistent with other provisions of the LUPA, including the BSU-level disturbance cap (MD SSS 27).</p> <p>Step 1—Determine if Impacts on Greater Sage-Grouse Habitat Can Be Avoided in Accordance with LUPA Standards and Guidelines.</p> <p>Step 2—Quantify Residual Impacts of the Project</p> <p>Project impacts occur at multiple scales. Impact analysis will account for both the direct impacts (e.g., habitat loss) and indirect impacts (e.g., Greater Sage-Grouse avoidance of the project area) to the ecological values, functions and/or services of Greater Sage-Grouse habitat. Indirect impacts extend beyond the footprint of disturbance and may extend beyond ownership boundaries. The quantification of these impacts must be based on the best available science (e.g., Manier 2017), provide an objective and transparent assessment of these impacts, measure impacts over multiple scales and address the cumulative impacts and interactions among stressors.</p> <p>Methods should take into account differences in habitat quality. Thus, they should assign lower impact scores in lower quality habitat and higher impact scores in higher quality habitat.</p> <p>Step 3—Determine Minimization Measures</p> <p>If Greater Sage-Grouse impacts cannot be avoided by relocating or modifying the project in accordance with LUPA standards and guidelines, then minimize impacts, including use of applicable required design features and/or best management practices.</p> <p>Step 4— Determine if there are residual effects after applying avoidance and minimization measures If there are residual effects, the BLM will require the project proponent to coordinate with the State of Idaho to determine whether any modification to the proposal or additional mitigation—including compensatory mitigation—may be necessary to comply with State policies and programs for the conservation of Greater Sage-Grouse.</p>

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Appendix K	No Appendix K	<p>This will become Appendix K [of the 2015 Final EIS] in the New Plan. Idaho proposed using a two-team approach to ensure collaborative implementation efforts regarding Greater Sage-Grouse conservation in Idaho.</p> <p>The following state and federal agencies are expected to collaborate to implement Greater Sage-Grouse conservation in Idaho: Bureau of Land Management (BLM), Fish and Wildlife Service (USFWS), US Forest Service (USFS), Idaho Governor’s Office of Species Conservation (OSC), Idaho Department of Fish and Game (IDFG), Idaho State Department of Agriculture (ISDA), Idaho Department of Lands (IDL), United States Geologic Survey (USGS), and Natural Resource Conservation Service (NRCS).</p> <p>Idaho Technical Team: Technical experts from the above mentioned state and federal agencies comprise this team. This team’s primary responsibilities are to review and analyze data and proposals related to infrastructure development and conservation actions in Greater Sage-Grouse habitat and make recommendations to the Policy Team. Specifically, their responsibilities include:</p> <ul style="list-style-type: none"><li>• Compile and analyze adaptive management population and habitat trigger data and recommend conservation actions based on the results of their analysis. Perform causal factor analysis when a soft or hard trigger is tripped. Population data are collected under the direction of IDFG, and habitat data on public lands are collected under the direction of the BLM</li><li>• Review proposals for large-scale development projects (new transmission lines, highways, power plants, wind or solar farms, etc.) to determine if they meet the necessary anthropogenic screening criteria and development criteria (MD SSS 29 and MD SSS 30). Their findings and recommendations would be submitted to the Policy Team for review and decisions</li><li>• Review applications for exceptions of the NSO policy in PHMA and IHMA and make recommendations to the Policy Team (MD SSS 29, MD SSS 30, and MD MR 3)</li><li>• Review applications for exceptions to allow a new free use mineral material pit in PHMA</li><li>• Review proposals to modify Greater Sage-Grouse habitat designations and make recommendations to the Policy Team.</li><li>• Review proposals to modify the adaptive management trigger system described in the ARMPA and make recommendations to the Policy Team</li><li>• Review BSU scale disturbance cap annual report from the BLM National Operations Center</li><li>• Other duties as the Policy Team may direct</li></ul> <p>Idaho Policy Team: Decision-makers from the above mentioned state and federal agencies comprise this team. This team has the following responsibilities:</p> <ul style="list-style-type: none"><li>• Review and discuss recommendations from the Technical Team</li><li>• Strive for consensus among the team and provide recommendations to the primary decision-maker (BLM State Director for actions occurring on federal public land)</li><li>• Authorize changes to the adaptive management program</li><li>• Review and refine the vision for Greater Sage-Grouse management in Idaho</li><li>• Changes to the duties of the Technical Team must be made by consensus of the Policy Team.</li></ul>	<p>This will become Appendix K [of the 2015 Final EIS] in the New Plan. Idaho proposed using a two-team approach to ensure collaborative implementation efforts regarding Greater Sage-Grouse conservation in Idaho.</p> <p>The following state and federal agencies are expected to collaborate to implement Greater Sage-Grouse conservation in Idaho: Bureau of Land Management (BLM), Fish and Wildlife Service (USFWS), US Forest Service (USFS), Idaho Governor’s Office of Species Conservation (OSC), Idaho Department of Fish and Game (IDFG), Idaho State Department of Agriculture (ISDA), Idaho Department of Lands (IDL), United States Geologic Survey (USGS), and Natural Resource Conservation Service (NRCS).</p> <p>Idaho Technical Team: Technical experts from the above mentioned state and federal agencies comprise this team. This team’s primary responsibilities are to review and analyze data and proposals related to infrastructure development and conservation actions in Greater Sage-Grouse habitat and make recommendations to the Policy Team. Specifically, their responsibilities include:</p> <ul style="list-style-type: none"><li>• Compile and analyze adaptive management population and habitat trigger data and recommend conservation actions based on the results of their analysis. Perform causal factor analysis when a soft or hard trigger is tripped. Population data are collected under the direction of IDFG, and habitat data on public lands are collected under the direction of the BLM</li><li>• Review proposals for large-scale development projects (new transmission lines, highways, power plants, wind or solar farms, etc.) to determine if they meet the necessary anthropogenic screening criteria and development criteria (MD SSS 29 and MD SSS 30). Their findings and recommendations would be submitted to the Policy Team for review and decisions</li><li>• Review applications for exceptions of the NSO policy in PHMA and IHMA and make recommendations to the Policy Team (MD SSS 29, MD SSS 30, and MD MR 3)</li><li>• Review applications for exceptions to allow a new free use mineral material pit in PHMA</li><li>• Review proposals to modify Greater Sage-Grouse habitat designations and make recommendations to the Policy Team.</li><li>• Review proposals to modify the adaptive management trigger system described in the ARMPA and make recommendations to the Policy Team</li><li>• Review BSU scale disturbance cap annual report from the BLM National Operations Center</li><li>• Other duties as the Policy Team may direct</li></ul> <p>Idaho Policy Team: Decision-makers from the above mentioned state and federal agencies comprise this team. This team has the following responsibilities:</p> <ul style="list-style-type: none"><li>• Review and discuss recommendations from the Technical Team</li><li>• Strive for consensus among the team and provide recommendations to the primary decision-maker (BLM State Director for actions occurring on federal public land)</li><li>• Authorize changes to the adaptive management program</li><li>• Review and refine the vision for Greater Sage-Grouse management in Idaho</li><li>• Changes to the duties of the Technical Team must be made by consensus of the Policy Team.</li></ul>

2015 ARMPA Decision Number	No-Action Alternative (2015 ARMPA Decisions) <i>Note: References to figures, tables, or appendices are those in the 2015 ROD/ARMPA.</i>	Management Alignment Alternative <i>Note: References to figures, tables, or appendices are those in the 2015 ROD/ARMPA.</i>	Proposed Plan <i>Note: References to figures, tables, or appendices are those in the 2015 ARMPA.</i>
Appendix K (cont.)	(see above)	This collaborative two-team approach provides the foundation for flexibility in Greater Sage-Grouse habitat management in Idaho. The interagency group technical experts in the Technical Team will review and summarize technical data and provide summaries and recommendations to the interagency group of decision-makers in the Policy Team. The Policy Team needs to include the primary decision-maker for whatever proposals come to that team. The remainder of the team will act as policy advisors to aid the primary decision-maker in considering the recommendations of the Technical Team. This process will ensure that both the technical and the policy related issues for each agency are considered as part of Greater Sage-Grouse management in Idaho. Meetings/coordination of the Policy Team will be led by the primary decision-maker of the proposal being discussed. Only proposals for large-scale anthropogenic disturbances need to be submitted.	This collaborative two-team approach provides the foundation for flexibility in Greater Sage-Grouse habitat management in Idaho. The interagency group technical experts in the Technical Team will review and summarize technical data and provide summaries and recommendations to the interagency group of decision-makers in the Policy Team. The Policy Team needs to include the primary decision-maker for whatever proposals come to that team. The remainder of the team will act as policy advisors to aid the primary decision-maker in considering the recommendations of the Technical Team. This process will ensure that both the technical and the policy related issues for each agency are considered as part of Greater Sage-Grouse management in Idaho. Meetings/coordination of the Policy Team will be led by the primary decision-maker of the proposal being discussed. Only proposals for large-scale anthropogenic disturbances need to be submitted.

**Table 2-4** includes the alternatives analyzed in detail during the 2015 planning effort and incorporated into the 2019 process. **Table 2-4** is in two parts. Part I are the LUP Goals and Objectives by Alternative analyzed in 2015 and Part II are the Management Actions analyzed in 2015.

**Part I Goals and Objectives**

**Table 2-4 Part I**  
**Goals and Objectives by Alternative (2015 Planning Effort)**

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Goals					
<b>A-GOAL-1:</b> No common goal across LUPs within the sub-region	<b>B-GOAL-1:</b> Maintain and/or increase Greater Sage-Grouse abundance and distribution by conserving, enhancing or restoring the sagebrush ecosystem upon which populations depend in cooperation with other conservation partners.	<b>C-GOAL-1:</b> Same as Alternative A.	<b>D-GOAL-1:</b> Maintain and/or increase Greater Sage-Grouse abundance and distribution by conserving, enhancing or restoring the sagebrush ecosystem upon which populations depend in cooperation with other conservation partners.	<b>E-GOAL-1:</b> Conserve the Greater Sage-Grouse and its habitat to avoid a listing under the ESA (see NTT 2011).	<b>F-GOAL -1:</b> Maintain and increase current Greater Sage-Grouse abundance and distribution by conserving, enhancing or restoring the sagebrush ecosystem
Objectives					
<b>A-OBJ-1:</b> No common objective across LUPs within the sub-region.	<b>B-OBJ-1:</b> Protect priority Greater Sage-Grouse habitats from anthropogenic disturbances that will reduce distribution or abundance of Greater Sage-Grouse.	<b>C-OBJ-1:</b> —	<b>D-OBJ-1:</b> Manage anthropogenic development and human disturbance in priority habitat to minimize the likelihood of adverse local population-level effects on Greater Sage-Grouse.	<b>E-OBJ-1:</b> CHZ: Provide a level of protection sufficient to conserve at least 65% of the current known leks occurring in the State within CHZ through implementation of regulatory mechanisms.  IHZ: Provide a population buffer to CHZ to minimize the risk of habitat loss from wildfire, invasive species while providing the opportunity to consider limited high-value infrastructure development.	<b>F-OBJ-1:</b> —
<b>A-OBJ-2:</b> No common objective across LUPs within the sub-region.	<b>B-OBJ-2:</b> Manage land uses, habitat treatments, and anthropogenic disturbances below thresholds necessary to conserve local Greater Sage-Grouse populations, sagebrush communities and landscapes	<b>C-OBJ-2:</b> —	<b>D-OBJ-2:</b> —	<b>E-OBJ-2:</b> CHZ and IHZ: Limit habitat loss in CHZ and IHZ during the first three-year period of implementation (2014-2017) to no more than 10% loss due to fire and/or infrastructure development resulting in a proportionate reduction of males counted on leks within a particular CA.	<b>F-OBJ-2:</b> —



Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-OBJ-3:</b> No common objective across LUPs within the sub-region.	<b>B-OBJ-3:</b> Sub-objective: Manage priority Greater Sage-Grouse habitats so that discrete anthropogenic disturbances cover less than 3% of the total Greater Sage-Grouse habitat regardless of ownership. Anthropogenic features include but are not limited to paved highways, graded gravel roads, transmission lines, substations, wind turbines, oil and gas wells, geothermal wells and associated facilities, pipelines, landfills, homes, and mines. In priority habitats where the 3% disturbance threshold is already exceeded from any source, no further anthropogenic disturbances will be permitted by BLM or Forest Service until enough habitat has been restored to maintain the area under this threshold (subject to valid existing rights). In this instance, an additional objective will be designated for the priority area to prioritize and reclaim/restore areas affected by anthropogenic disturbances so that 3% or less of the total priority habitat area is disturbed within 10 years.	<b>C-OBJ-3:</b> —	<b>D-OBJ-3:</b> —	<b>E-OBJ-3:</b> —	<b>F-OBJ-3:</b> —
<b>A-OBJ-4:</b> No common objective across LUPs within the sub-region.	<b>B-OBJ-4:</b> Maintain or increase current distribution and abundance of Greater Sage-Grouse on BLM administered lands in support of the range-wide goals	<b>C-OBJ-4:</b> —	<b>D-OBJ-4:</b> —	<b>E-OBJ-4:</b> —	<b>F-OBJ-4:</b> —
<b>A-OBJ-5:</b> No common objective across LUPs within the sub-region.	<b>B-OBJ-5:</b> Sub-objective: Develop quantifiable habitat and population objectives with WAFWA and other conservation partners at the management zone and/or other appropriate scales. Develop a monitoring and adaptive management strategy to track whether these objectives are being met, and allow for revisions to management approaches if they are not.	<b>C-OBJ-5:</b> —	<b>D-OBJ-5:</b> —	<b>E-OBJ-5:</b> —	<b>F-OBJ-5:</b> —
<b>A-OBJ-6:</b> No common objective across LUPs within the sub-region.	<b>B-OBJ-6:</b> Sub-objective: Designate priority Greater Sage-Grouse habitats for each WAFWA management zone (Stiver et al. 2006) across the current geographic range of Greater Sage-Grouse that are large enough to stabilize populations in the short term and enhance populations over the long term.	<b>C-OBJ-6:</b> —	<b>D-OBJ-6:</b> Sub-objective: Designate priority Greater Sage-Grouse habitats for each WAFWA management zone (Stiver et al. 2006) across the current geographic range of Greater Sage-Grouse that are large enough to stabilize populations in the short term and enhance populations over the long term.	<b>E-OBJ-6:</b> CHZ: Focus management by Federal and State agencies on the maintenance and enhancement of habitats, populations and connectivity in areas within this management zone.  IHZ: Focus management by Federal and State agencies on areas within this zone that have the best opportunities for conserving, enhancing or restoring habitat for Greater Sage-Grouse. Provide management flexibility to permit high-value infrastructure projects.	<b>F-OBJ-6:</b> —

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-OBJ-7:</b> No common objective across LUPs within the sub-region.	<b>B-OBJ-7:</b> Sub-objective: To maintain or increase current populations, manage or restore priority areas so that at least 70% of the land cover provides adequate sagebrush habitat to meet Greater Sage-Grouse needs.	<b>C-OBJ-7:</b> —	<b>D-OBJ-7:</b> Identify and expand sagebrush areas to increase the extent and condition of available habitat on the landscape.	<b>E-OBJ-7:</b> —	<b>F-OBJ-7:</b> —
<b>A-OBJ-8:</b> No common objective across LUPs within the sub-region.	<b>B-OBJ-8:</b> —	<b>C-OBJ-8:</b> —	<b>D-OBJ-8:</b> Manage GHMAs in a way that buffers adjoining PHMAs from disturbances.	<b>E-OBJ-8:</b> —	<b>F-OBJ-8:</b> —
<b>A-OBJ-9:</b> No common objective across LUPs within the sub-region.	<b>B-OBJ-9:</b> —	<b>C-OBJ-9:</b> —	<b>D-OBJ-10:</b> Reconnect and expand areas of higher native plant community integrity/rangeland health to increase the extent of high quality habitat and, where possible, to accommodate the future effects of climate change.	<b>E-OBJ-9:</b> —	<b>F-OBJ-9:</b> —
<b>A-OBJ-10:</b> No common objective across LUPs within the sub-region.	<b>B-OBJ-10:</b> —	<b>C-OBJ-10:</b> —	<b>D-OBJ-10:</b> Increase the amount and functionality of seasonal habitats. a. Increase canopy cover and average patch size of sagebrush in perennial grasslands. b. Increase the amount, condition and connectivity of seasonal habitats. c. Protect or improve Greater Sage-Grouse migration/movement corridors. d. Reduce conifer encroachment within Greater Sage-Grouse seasonal habitats. e. Improve understory (grass, forb) and/or riparian condition within breeding and late brood-rearing habitats. f. Reduce the extent of annual grasslands adjacent to priority habitat.	<b>E-OBJ-10:</b> —	<b>F-OBJ-10:</b> —
<b>A-OBJ-11:</b> No common objective across LUPs within the sub-region.	<b>B-OBJ-11:</b> —	<b>C-OBJ-11:</b> —	<b>D-OBJ-11:</b> Minimize the loss of existing priority sagebrush habitat. In particular, identify and strategically protect larger in-tact sagebrush areas and areas of lower fragmentation to maintain Greater Sage-Grouse population persistence.	<b>E-OBJ-11:</b> CHZ: Implement the regulatory mechanisms to maintain and enhance Greater Sage-Grouse habitats, populations and connectivity in areas within CHZ, buffered by strategic areas within IHZ, dominated by sagebrush.  IHZ: Provide strategic buffers in areas dominated by sagebrush to CHZ where regulatory mechanisms maintain and enhance Greater Sage-Grouse habitats, populations and connectivity in areas within CHZ.	<b>F-OBJ-11:</b> Establish a system of sagebrush reserves to anchor recovery efforts by protecting the highest quality habitats.
<b>A-OBJ-12:</b> No common objective across LUPs within the sub-region.	<b>B-OBJ-12:</b> —	<b>C-OBJ-12:</b> —	<b>D-OBJ-12:</b> Conserve, enhance or restore GHMAs to improve habitat condition and connectivity between PHMAs.	<b>E-OBJ-12:</b> —	<b>F-OBJ-12:</b> Restore and maintain sagebrush steppe to its ecological potential in occupied Greater Sage-Grouse habitat.
<b>A-OBJ-13:</b> No common objective across LUPs within the sub-region.	<b>B-OBJ-13:</b> —	<b>C-OBJ-13:</b> —	<b>D-OBJ-13:</b> Reduce or minimize risk of West Nile Virus or other diseases.	<b>E-OBJ-13:</b> —	<b>F-OBJ-13:</b> —

Management Actions

Table 2-4 Part II  
Management Actions by Alternative (2015 Planning Process)

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
SSS – Greater Sage-Grouse					
<p><b>A-SSS-I:</b> There is no consistent mapping representation of Greater Sage-Grouse habitat across the sub-region, nor is there any consistent designation of habitat within the sub-region (see Table 2-9).</p> <p>Idaho BLM, in coordination with IDFG and LVGs, has developed and maintained a Key Greater Sage-Grouse map over the last 12 years which depicts areas important to Greater Sage-Grouse (Key areas) and areas where restoration could potentially occur to restore habitat conditions (R1 perennial grass dominated areas; R2 – annual grass dominated areas; and R3 – conifer encroachment areas) Montana BLM in coordination with MFWP has developed a Core Habitat map that depicts important areas for Greater Sage-Grouse (Core areas). These maps (the Idaho Key Habitat and Montana Core Habitat) do not represent any habitat designation with associated management direction, but instead are used as and information tool to help prioritize site specific management, suppression and rehabilitation efforts.</p> <p>Several National Forests have designated Greater Sage-Grouse habitat with associated management guidance. These include the Beaverhead-Deerlodge, Caribou-Targhee and Sawtooth NFs. The habitat designations were typically define as buffers around existing leks and adjusted managed within those areas.</p>	<p><b>B-SSS-I: PHMA:</b> Designate PHMAs on 8,235,900 acres (see Table 2-9).</p> <p>PHMA includes areas that have the highest conservation value to maintaining or increasing Greater Sage-Grouse populations. These areas include breeding, late brood-rearing, winter concentration areas, and where known, migration or connectivity corridors.</p> <p><b>GHMA:</b> Designate GHMAs on 3,102,400 acres (see Table 2-9).</p> <p>GHMA is occupied (seasonal or year-round) habitat outside of PHMA.</p>	<p><b>C-SSS-I: PHMA:</b> Designate PHMA on 11,106,900 acres (see Table 2-9).</p> <p>PHMA is all occupied (seasonal or year-round) Greater Sage-Grouse habitat.</p>	<p><b>D-SSS-I: PHMA:</b> Designate PHMA on 6,849,200 acres (see Table 2-9).</p> <p>PHMA includes areas that have the highest conservation value to Greater Sage-Grouse. Key characteristics include areas of higher lek attendance and lek connectivity, lower habitat fragmentation, important movement corridors and winter habitat.</p> <p><b>IHMA:</b> Designate Important Habitat Management Areas (IHMA) on 1,386,800 acres (see Table 2-9).</p> <p>IHMA includes areas of moderate to high conservation value to Greater Sage-Grouse that are generally adjacent to PHMAs but reflect reduced Greater Sage-Grouse population and/or habitat characteristics.</p> <p><b>GHMA:</b> Designate GHMA on 2,934,100 acres (see Table 2-9).</p> <p>GHMA is occupied (seasonal or year-round) habitat outside of PHMA and IHMA.</p>	<p><b>E-SSS-I: Idaho – CHZ:</b> Designate CHZ on 4,908,100 acres (see Table 2-9).</p> <p>CHZ focuses on conserving each of the two key meta-populations in the State. These meta-populations consist of a large aggregation of interconnected breeding subpopulations of Greater Sage-Grouse that have the highest likelihood of long-term persistence. One meta-population is located north of the Snake River and includes the Mountain Valley and Desert CAs; the other is located south of the Snake River and includes the West Owyhee and Southern CAs.</p> <p><b>Idaho –IHZ:</b> Designate IHZ on 2,743,800 acres (see Table 2-9).</p> <p>IHZ, while permitting more management flexibility, also contains important habitat for the species and is an important buffer against the threat of wildfire. IHZ captures high quality habitat and populations that provide a management buffer for CHZ, connect patches of CHZ, and support important populations and habitat independent of CHZ.</p> <p><b>Idaho – GHZ:</b> Designate GHZ on 4,908,100 acres (see Table 2-9).</p> <p>GHZ generally includes few active leks, and fragmented or marginal habitat. It includes habitat for two isolated populations of Greater Sage-Grouse in the East Idaho Uplands and West Central Idaho.</p> <p><b>Montana Habitat:</b> All goals, objectives and management actions are the same as Alternative A and are summarized in Appendix U [of the 2015 Final EIS].</p> <p><b>Utah Habitat:</b> Designate PHMA on 71,800 acres. All lands with Greater Sage-Grouse habitat in the portion of the</p>	<p><b>F-SSS-I: PHMA:</b> Designate PHMA on 8,235,900 acres (see Table 2-9).</p> <p>PHMA conserves large expanses of sagebrush steppe and all active Greater Sage-Grouse leks, and brood-rearing, transitional, and winter habitats.</p> <p><b>GHMA:</b> Designate GHMA on 2,870,900 acres (see Table 2-9).</p> <p>GHMA is occupied (seasonal or year-round) habitat outside of PHMA.</p> <p><b>RHMA:</b> Designate Restoration Habitat Management Areas (RHMA) on 500,300 acres (see Table 2-9).</p> <p>RHMA is degraded or fragmented habitat that is currently unoccupied by Greater Sage-Grouse but might be useful to the species if restored to its potential natural community.</p>

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
(see above)	(see above)	(see above)	(see above)	Sawtooth National Forest sub-region in Utah are PHMA (see Table 2-9).	(see above)
A-SSS-2: —.	B-SSS-2: PHMA: —.  GHMA: —.	C-SSS-2: PHMA: —.	D-SSS-2: PHMA: —.  IHMA: —.  GHMA: —.	E-SSS-2: Idaho – Common to All Habitats: —.  Utah Habitat: Limit or ameliorate impacts from activities as identified in this matrix through the use of the following stipulations: <ul style="list-style-type: none"><li>• New permanent disturbance, including structures, fences, and buildings, should not be located within the occupied lek itself.</li><li>• No permanent disturbance within 1 mile of an occupied lek, unless it is not visible to the Greater Sage-Grouse using the lek.</li><li>• New permanent tall structures should not be located within one mile of the lek, if visible by the birds within the lek.</li><li>• A disturbance outside the lek should not produce noise more than 10 dBs above the ambient (background) level at the edge of the lek during breeding season.</li><li>• Apply time-of-day stipulations when the lek is active (e.g., no activity from 2-hours before sunrise to 2-hours after sunrise).</li><li>• Avoid activities (construction, vehicle noise, etc.) in the following seasons and habitats:<ul style="list-style-type: none"><li>○ On leks from February 15 – May 15 to avoid activities that will disturb lek attendance or breeding.</li><li>○ In nesting and brood-rearing areas from April 1 – August 15.</li><li>○ In winter habitat from November 15 – March 15.</li></ul></li><li>• Specific time and distance determinations for seasonal stipulations would be based on site-specific conditions, in coordination with the local Utah Department of Wildlife Resources biologist.</li><li>• Avoid disturbance within PHMA (nesting and brood-rearing areas, winter habitat, other habitat), if possible. Project proponents must demonstrate why avoidance is not possible. If avoidance in PHMA is not</li></ul>	F-SSS-2: PHMA: —.  GHMA: —.  RHMA: —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
(see above)	(see above)	(see above)	(see above)	<ul style="list-style-type: none"><li>possible, minimize as appropriate to the area (e.g., try to minimize effects by locating development in habitat of the least importance, take advantage of topographic to screen the disturbance, or maintaining and enhancing wet meadow and riparian vegetation).</li><li>After minimization, mitigation is required (see mitigation section).</li><li>Cumulative new permanent disturbance should not exceed 5% of surface area of nesting, winter, or other habitat, within the population area's PHMA.</li><li>Manage PHMA to avoid barriers to migration, if applicable.</li></ul>	(see above)
<b>A-SSS-3:</b> No disturbance cap is managed across the sub-region.	<b>B-SSS-3: PHMA:</b> Apply a three percent surface disturbance cap on anthropogenic disturbances (not including fire).  <b>GHMA:</b> —.	<b>C-SSS-3:</b> Same as Alternative B.	<b>D-SSS-3: PHMA:</b> Require no net unmitigated loss of PHMAs.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-SSS-3: Idaho – CHZ:</b> Apply a three percent surface disturbance cap on fluid mineral development.  <b>Idaho – IHZ:</b> Apply a five percent surface disturbance cap on fluid mineral development.  <b>Idaho – GHZ:</b> —.  <b>Utah Habitat:</b> —.	<b>F-SSS-3: PHMA:</b> Apply a three percent disturbance cap on surface disturbances, including fire.
Monitoring					
<b>A-SSS-4:</b> —.	<b>B-SSS-4:</b> Develop a Monitoring Framework to include: methods, data standards, and intervals of monitoring at broad and mid scales; consistent indicators to measure and metric descriptions for each of the scales [see Habitat Assessment Framework (HAF) and Assessment, Inventory and Monitoring core indicators]; analysis and reporting methods; and the incorporation of monitoring results into adaptive management.	<b>C-SSS-4:</b> Same as Alternative B.	<b>D-SSS-4:</b> Same as Alternative B.	<b>E-SSS-4:</b> Utilize lek monitoring and habitat monitoring to annually assess adaptive management triggers.	<b>F-SSS-4:</b> Same as Alternative B.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Adaptive Management					
<b>A-SSS-5:</b> —.	<b>B-SSS-5:</b> Develop an adaptive management strategy to provide certainty that unintended negative impacts on Greater Sage-Grouse will be addressed before consequences become severe or irreversible and to provide regulatory certainty to the USFWS that appropriate action will be taken by the BLM and Forest Service.	<b>C-SSS-5:</b> Same as Alternative B.	<b>D-SSS-5:</b> Use habitat and population triggers to adjust management in IHMA. All management identified for PHMAs would apply to IHMAs in response to triggers. See Section 2.6.4 for details.	<b>E-SSS-5:</b> Use hard and soft population and habitat triggers to adjust management in IHZ. Management from CHZs, primarily for infrastructure, would apply to IHZ in response to triggers. Develop the following: <ul style="list-style-type: none"><li>Fuel Break Strategy</li><li>Response Time Analysis</li><li>Water Availability Analysis</li><li>Restoration Strategy</li></ul> (see Appendix Q [of the 2015 Final EIS])	<b>F-SSS-5:</b> Same as Alternative B.
Vegetation					
<b>A-VG-1:</b> —.	<b>B-VG-1: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-VG-1: PHMA:</b> —.	<b>D-VG-1: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-VG-1: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-VG-1: PHMA:</b> In PHMA, ensure that soil cover and native herbaceous plants are at their Ecological Site Description potential to help protect against invasive plants. In areas without Ecological Site Descriptions, reference sites would be utilized to identify appropriate vegetation communities and soil cover.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
Habitat Restoration					
<b>A-VG-2:</b> In most LUPs, either no priorities are established or prioritization is given to projects that benefit multiple resources (e.g., livestock, wildlife, wild horses and burros, special status species).  All LUPs which recognize conifer expansion and its effects on sagebrush steppe habitat uniformly identify the need for controlling conifer expansion through various methods including: hand cutting, wood cutting, mechanical, prescribed fire, chemical treatments, and through the use of wildfire where feasible.  Montana BLM: Restore vegetation to benefit multiple uses. Promote the use of native species where possible (See ROD pg. 51 Actions 3, 12, 14 and Appendix X of Dillon ROD/RMP). Restore and maintain desired ecological conditions and fuel loadings. Evaluate benefits against loss of sagebrush in NEPA	<b>B-VG-2: PHMA:</b> Prioritize implementation of restoration projects based on environmental variables that improve chances for project success in areas most likely to benefit Greater Sage-Grouse (Meinke et al. 2009). Prioritize restoration in seasonal habitats that are thought to be limiting Greater Sage-Grouse distribution and/or abundance.  <b>GHMA:</b> —.	<b>C-VG-2: PHMA:</b> Same as Alternative B.	<b>D-VG-2: PHMA:</b> Prioritize implementation of vegetation rehabilitation projects to achieve the greatest improvement in Greater Sage-Grouse habitat. Factors contributing to higher emphasis for implementation include: <ul style="list-style-type: none"><li>Sites where environmental variables contribute to improved chances for project success (Meinke et al. 2009).</li><li>Improvement of seasonal habitats that are thought to be limiting Greater Sage-Grouse distribution and/or abundance (wintering areas , wet meadows and riparian areas, nesting areas, leks, etc.).</li><li>Re-establishment of sagebrush cover in otherwise suitable Greater Sage-Grouse with consideration to local needs and conditions using the general priorities in the following order:</li><li>Native grassland with suitable forb component</li></ul>	<b>E-VG-2: Idaho – CHZ:</b> Prioritize the removal of conifers through methods appropriate for the terrain and most likely to facilitate expeditious Greater Sage-Grouse population and habitat recovery. To the extent possible, utilize removal methods creating the least amount of disturbance. <ul style="list-style-type: none"><li>a. Efforts should focus on areas with highest restoration potential typically evidenced by low canopy cover, existing sagebrush understory, and adjacent current populations.</li><li>b. Refrain from using prescribed fire and conducting removal projects in juniper stands older than one hundred years.</li><li>c. Maximize the use of Natural Resource Conservation Service funding through permittee grants under the Environmental Quality Incentives Program and Wildlife Habitat Improvement programs.</li></ul> <b>Idaho – IHZ:</b> Prioritize the removal of conifers through methods appropriate	<b>F-VG-2: PHMA:</b> Prioritize implementation of restoration projects based on environmental variables that improve chances for project success in areas most likely to benefit Greater Sage-Grouse (Meinke et al. 2009).  Prioritize restoration in seasonal habitats that are thought to be limiting Greater Sage-Grouse distribution and/or abundance and where factors causing degradation have already been addressed (e.g., changes in livestock management).  <b>GHMA:</b> —.  <b>RHMA:</b> —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
process. Do not burn Wyoming sagebrush.	(see above)	(see above)	<ul style="list-style-type: none"><li>• Nonnative grassland with suitable forb component</li><li>• Recently burned native areas</li><li>• Native grassland</li><li>• Nonnative grassland</li><li>• Where desirable perennial bunchgrasses and/or forbs are deficient in existing sagebrush stands, use appropriate mechanical, aerial or other techniques to re-establish them. Examples include but are not limited to, use of a Lawson aerator with seeding, harrow or chain with seeding, drill seeding, hand planting plugs, aerial seeding or other appropriate technique.</li><li>• Cooperative efforts that may improve Greater Sage-Grouse habitat quality over multiple ownerships.</li><li>• Projects in GHMA that may provide connectivity between suitable habitats or expand existing good quality habitats.</li><li>• Projects that address conifer encroachment into important Greater Sage-Grouse habitats. In general the priority for treatment is 1) Phase 1 (≤10% conifer cover), 2) Phase 2 (10-30%), and 3) Phase 3 (&gt;30%).</li><li>• Replacing stands of annual grasses within otherwise good quality habitats with desirable perennial species. Other factors that contribute to the importance of the restoration project in maintaining or improving Greater Sage-Grouse habitat.</li></ul> <p><b>IHMA:</b> Same as PHMA.</p> <p><b>GHMA:</b> Same as PHMA.</p>	<p>for the terrain and most likely to facilitate expeditious Greater Sage-Grouse habitat recovery. Especially prioritize and target removal treatments adjacent to CHZ. To the extent possible, utilize methods creating the least amount of disturbance.</p> <p>a. Areas with highest restoration potential will typically have low canopy cover, existing sagebrush understory, and adjacent current populations.</p> <p>b. Refrain from using prescribed fire and conducting removal projects in juniper stands older than one-hundred years.</p> <p>c. Maximize the use of Natural Resource Conservation Service funding through permittee grants under the Environmental Quality Incentives Program and Wildlife Habitat Improvement programs.</p> <p><b>Idaho – GHZ:</b> —.</p> <p><b>Montana Habitat:</b> Same as Alternative A.</p> <p><b>Utah Habitat:</b> Protection of Greater Sage-Grouse habitat is the primary focus of conservation efforts, but many locations can be reclaimed or restored by active vegetation management actions. For example:</p> <ul style="list-style-type: none"><li>• removal of encroaching conifers may create new habitat or increase the carrying capacity of habitat and thereby expand Greater Sage-Grouse populations, or</li><li>• the distribution of water into wet meadow areas may improve seasonal brood-rearing range and enhance Greater Sage-Grouse recruitment.</li></ul> <p>Aggressively remove encroaching conifers and other plant species to expand Greater Sage-Grouse habitat where possible.</p> <p>Sagebrush treatment projects within nesting and winter habitat should be limited and require pre-approval by the appropriate regulatory agency in</p>	(see above)

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
(see above)	(see above)	(see above)	(see above)	discussions with DWR. Sagebrush treatment projects should maintain 80% of the available habitat as sagebrush within the project area; 20% of the habitat can be managed for younger age classes of sagebrush, if appropriate. These treatments are generally recommended only to improve brood-rearing habitat, but need to be carefully considered before use in winter and other habitat.	(see above)
<b>A-VG-3:</b> Guidance and management direction for general vegetation is fairly broad and trends toward maintaining the components of the vegetative community in the same relative proportion as those which would have historically occurred in the area. Some LUPs contain objectives for maintaining, improving, or restoring sagebrush plant communities. The level of detail varies depending on the age of the land use plan.	<b>B-VG-3: PHMA:</b> —. <b>GHMA:</b> —.	<b>C-VG-3: PHMA:</b> Composition, function, and structure of native vegetation communities will be consistent with the reference state of the appropriate Ecological Site Description and will be maximized to provide for healthy, resilient, and recovering Greater Sage-Grouse habitat components.	<b>D-VG-3: PHMA:</b> —. <b>IHMA:</b> —. <b>GHMA:</b> —.	<b>E-VG-3: Idaho – Common to All Habitats:</b> —. <b>Utah Habitat:</b> —.	<b>F-VG-3: PHMA:</b> —. <b>GHMA:</b> —. <b>RHMA:</b> —.
<b>A-VG-4:</b> All recent LUPs include management actions that promote use of native species where possible, acknowledging that in some instances, vegetative treatments may not be successful without the use of nonnative desired species.  Older plans typically do not include a similar management action.	<b>B-VG-4: PHMA:</b> Require use of native seeds for restoration based on availability, adaptation (ecological site potential), and probability of success (Richards et al. 1998). Where probability of success or adapted seed availability is low, nonnative seeds may be used as long as they support Greater Sage-Grouse habitat objectives (Pyke 2011).  <b>GHMA:</b> —.	<b>C-VG-4: PHMA:</b> Same as Alternative B.	<b>D-VG-4: PHMA:</b> Same as Alternative B.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-VG-4: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-VG-4: PHMA:</b> Same as Alternative B.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-VG-5:</b> All LUPs, which are written in accordance with applicable program direction, include management actions that allow the administering agency to make adjustments to livestock grazing, wild horse and burro management, and travel management on a case-by case basis following restoration activities.	<b>B-VG-5: PHMA:</b> Design post restoration management to ensure long term persistence. This could include changes in livestock grazing management, wild horse and burro management and travel management, etc., to achieve and maintain the desired condition of the restoration effort that benefits Greater Sage-Grouse (Eiswerth and Shonkwiler 2006).  <b>GHMA:</b> —.	<b>C-VG-5: PHMA:</b> Same as Alternative B.	<b>D-VG-5: PHMA:</b> Implement management changes, as necessary, to maintain suitable Greater Sage-Grouse habitat, improve unsuitable Greater Sage-Grouse habitat and to ensure long-term persistence of improved Greater Sage-Grouse habitat achieved through restoration efforts (Eiswerth and Shonkwiler 2006). Management changes could be considered for livestock grazing, wild horse and burros, travel planning, and other resources.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-VG-5: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-VG-5: PHMA:</b> Same as Alternative B.  <b>GHMA:</b> —.  <b>RHMA:</b> —.



Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-VG-6: —.</b>	<b>B-VG-6: PHMA:</b> Consider potential changes in climate (Miller et al. 2011) when proposing restoration seedings when using native plants. Consider collection from the warmer component of the species current range when selecting native species (Kramer and Havens 2009).  <b>GHMA: —.</b>	<b>C-VG-6: PHMA:</b> Same as Alternative B.	<b>D-VG-6: PHMA: —.</b>  <b>IHMA: —.</b>  <b>GHMA: —.</b>	<b>E-VG-6: Idaho – Common to All Habitats: —.</b>  <b>Utah Habitat: —.</b>	<b>F-VG-6: PHMA:</b> Same as Alternative B.  <b>GHMA: —.</b>  <b>RHMA: —.</b>
<b>A-VG-7:</b> Most LUPs do not include specific management actions related to seedings.  Plans do include generic decisions that allow maintenance of existing range improvements, which includes maintenance of historical seedings.  Recently completed LUPs promote use of native species when conducting restoration activities. This would include restoration projects conducted in areas that have perennial grass cover.  Older plans do not include a similar management action.	<b>B-VG-7: PHMA:</b> Restore native (or desirable) plants and create landscape patterns which most benefit Greater Sage-Grouse.  <b>GHMA: —.</b>	<b>C-VG-7: PHMA:</b> Exotic seedings will be rehabbed, interseeded, restored to recover sagebrush in areas to expand occupied habitats.	<b>D-VG-7: PHMA: —.</b>  <b>IHMA: —.</b>  <b>GHMA: —.</b>	<b>E-VG-7: Idaho – Common to All Habitats: —.</b>  <b>Utah Habitat: —.</b>	<b>F-VG-7: PHMA: —.</b>  <b>GHMA: —.</b>  <b>RHMA: —.</b>
<b>A-VG-8:</b> Some LUPs contain objectives for maintaining improving, or restoring sagebrush plant communities. The level of detail varies depending on the age of the land use plan.  All LUPs address vegetation treatments for improvement of wildlife habitat overall or to provide increased forage for wildlife, livestock, and wild horses and burros.  Recent LUPs may include management actions that purposely restore or enhance Greater Sage-Grouse habitat.	<b>B-VG-8: PHMA:</b> Make re-establishment of sagebrush cover and desirable understory plants (relative to ecological site potential) the highest priority for restoration efforts.  <b>GHMA: —.</b>	<b>C-VG-8: PHMA:</b> Same as Alternative B.	<b>D-VG-8: PHMA: —.</b>  <b>IHMA: —.</b>  <b>GHMA: —.</b>	<b>E-VG-8: Idaho – Common to All Habitats: —.</b>  <b>Utah Habitat: —.</b>	<b>F-VG-8: PHMA: —.</b>  <b>GHMA: —.</b>  <b>RHMA: —.</b>
<b>A-VG-9: —.</b>	<b>B-VG-9: PHMA:</b> In fire prone areas where sagebrush seed is required for Greater Sage-Grouse habitat restoration, consider establishing seed harvest areas that are managed for seed production (Armstrong 2007) and are a priority for protection from outside disturbances.  <b>GHMA: —.</b>	<b>C-VG-9: PHMA:</b> Same as Alternative B.	<b>D-VG-9: PHMA:</b> In fire prone areas where sagebrush seed is required for Greater Sage-Grouse habitat restoration, consider establishing seed harvest areas that are managed for seed production (Armstrong 2007).  <b>IHMA:</b> Same as PHMA.  <b>GHMA: —.</b>	<b>E-VG-9: Idaho – Common to All Habitats: —.</b>  <b>Utah Habitat: —.</b>	<b>F-VG-9: PHMA:</b> Same as Alternative B.  <b>GHMA: —.</b>  <b>RHMA: —.</b>

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-VG-10: —.</b>	<b>B-VG-10: PHMA: —.</b>  <b>GHMA: —.</b>	<b>C-VG-10: PHMA:</b> Active restoration practices: <ul style="list-style-type: none"><li>• Removal of livestock water troughs, pipelines, and wells.</li><li>• Where possible, without further damage to springs/water sources, remove waterline piping and maximize water at spring/stream sources supporting diverse riparian and meadow vegetation.</li><li>• Promote natural healing of headcuts to the maximum extent possible by limiting disturbance throughout the watershed. At times, a combination of methods may need to be used – but gabions and structural devices and boulder dumping should be limited, and restoration should strive for a functioning system.</li><li>• Ripping/recontouring of roads and seeding with native local ecotypes of shrubs and grasses.</li></ul>	<b>D-VG-10: PHMA: —.</b>  <b>IHMA: —.</b>  <b>GHMA: —.</b>	<b>E-VG-10: Idaho – Common to All Habitats: —.</b>  <b>Utah Habitat: —.</b>	<b>F-VG-10: PHMA: —.</b>  <b>GHMA: —.</b>  <b>RHMA: —.</b>
<b>A-VG-11: —.</b>	<b>B-VG-11: PHMA: —.</b>  <b>GHMA: —.</b>	<b>C-VG-11: PHMA:</b> Active restoration of crested wheatgrass seedlings. This can be accomplished, following targeted restoration planning to expand, reconnect or recover habitats required by Greater Sage-Grouse by: <ul style="list-style-type: none"><li>• Inter-seeding sagebrush seed or seedlings.</li><li>• Removal of crested wheatgrass through plowing while minimizing use of herbicides. Subsequent re-seeding with local native ecotypes.</li><li>• Active restoration of cheatgrass infestation areas.</li><li>• In all cases, local native plant ecotype seeds and seedlings must be used.</li></ul>	<b>D-VG-11: PHMA: —.</b>  <b>IHMA: —.</b>  <b>GHMA: —.</b>	<b>E-VG-11: Idaho – Common to All Habitats: —.</b>  <b>Utah Habitat:</b> Limit or ameliorate impacts through the use of the general stipulations identified in the Greater Sage-Grouse section. Engage in reclamation efforts as projects advance or are completed. Recognize that stipulations for other species (e.g., raptors) may impede the ability to effectively reclaim disturbed areas, and remove those barriers in order to achieve immediate and effective reclamation, if otherwise allowable by law. Prioritize areas for habitat improvement to make best use of mitigation funds.	<b>F-VG-11: PHMA: —.</b>  <b>GHMA: —.</b>  <b>RHMA: —.</b>
<b>A-VG-12: —.</b>	<b>B-VG-12: PHMA: —.</b>  <b>GHMA: —.</b>	<b>C-VG-12: PHMA: —.</b>	<b>D-VG-12: PHMA: —.</b>  <b>IHMA: —.</b>  <b>GHMA: —.</b>	<b>E-VG-12: Idaho – Common to All Habitats: —.</b>  <b>Utah Habitat: —.</b>	<b>F-VG-12: PHMA Habitat:</b> Avoid sagebrush reduction/treatments to increase livestock or big game forage in PHMA and include plans to restore high-quality habitat in areas with invasive species.  <b>GHMA: —.</b>  <b>RHMA: —.</b>

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
A-VG-13: —.	B-VG-13: PHMA: —.  GHMA: —.	C-VG-13: PHMA: —.	D-VG-13: PHMA: Utilize cooperative planning efforts to develop and implement habitat restoration projects. Expertise and ideas from local landowners, working groups, and other federal, state, county, and private organizations should be solicited and considered in development of projects.  IHMA: Same as PHMA.  GHMA: Same as PHMA.	E-VG-13: Idaho – Common to All Habitats: —.  Utah Habitat: —.	F-VG-13: PHMA: —.  GHMA: —.  RHMA: —.
A-VG-14: —.	B-VG-14: PHMA: —.  GHMA: —.	C-VG-14: PHMA: —.	D-VG-14: PHMA: Consider design features that will contribute to the most favorable conditions for success when planning and implementing rehabilitation projects. Considerations should include: <ul style="list-style-type: none"><li>Careful review of available plant species and their adaptation to the site when developing seed mixes. (Lambert 2005; VegSpec).</li><li>The impacts of potential climate changes (Miller et al. 2011), consider utilizing the warmer component of a species' current range when selecting native species for restoration (Kramer and Havens 2009).</li><li>The need to reduce annual grass densities and competition through herbicide, targeted grazing, tillage, prescribed fire, etc. (Pyke 2011).</li><li>The need to reduce density and competition of perennial grasses and techniques to accomplish this reduction (Pellant and Lysne 2005).</li><li>Techniques to introduce desired species to the site such as drill seeding, broadcast seeding followed by a seed coverage technique, such as harrowing, chaining or livestock trampling, and transplanting container or bare-root seedlings</li><li>Assessment of on-site vegetation to ascertain if enough desirable perennial vegetation exists to consider techniques to increase on-site seed production to facilitate an increase in density of desired species.</li><li>Use of site preparation techniques that retain existing desirable vegetation.</li></ul>	E-VG-14: Idaho – Common to All Habitats: —.  Utah Habitat: —.	F-VG-14: PHMA: —.  GHMA: —.  RHMA: —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
(see above)	(see above)	(see above)	<ul style="list-style-type: none"><li>Use of "mother plant" techniques or planting of satellite populations of desirable plants to serve as seed sources.</li><li>The need for post-treatment control of annual grass and other invasive species. The availability of new tools and use of new science and research as it becomes available.</li></ul> <p><b>IHMA:</b> Same as PHMA.</p> <p><b>GHMA:</b> Same as PHMA.</p>	(see above)	(see above)
<p><b>A-VG-15:</b> Recently completed LUPs promote use of native species when conducting restoration activities. This would include restoration projects conducted in areas that have perennial grass cover.</p> <p>Older plans do not include a similar management action.</p>	<p><b>B-VG-15: PHMA:</b> —.</p> <p><b>GHMA:</b> —.</p>	<p><b>C-VG-15: PHMA:</b> —.</p>	<p><b>D-VG-15: PHMA:</b> —.</p> <p><b>IHMA:</b> —.</p> <p><b>GHMA:</b> —.</p>	<p><b>E-VG-15: Idaho – CHZ:</b> Emphasize the use of native seeds for fuels management treatment based on availability, adaptation (site potential), and probability of success.</p> <p><b>Idaho – IHZ:</b> Same as Idaho – CHZ.</p> <p><b>Idaho – GHZ:</b> —.</p> <p><b>Utah Habitat:</b> —.</p>	<p><b>F-VG-15: PHMA:</b> —.</p> <p><b>GHMA:</b> —.</p> <p><b>RHMA:</b> —.</p>
<p><b>A-VG-16:</b> —.</p>	<p><b>B-VG-16: PHMA:</b> —.</p> <p><b>GHMA:</b> —.</p>	<p><b>C-VG-16: PHMA:</b> —.</p>	<p><b>D-VG-16: PHMA:</b> —.</p> <p><b>IHMA:</b> —.</p> <p><b>GHMA:</b> —.</p>	<p><b>E-VG-16: Idaho – CHZ:</b> Reallocate native plant seeds for ESR from outside the Greater Sage-Grouse Management Area and GHZ to this management zone if necessary.</p> <p><b>Idaho – IHZ:</b> Same as Idaho - CHZ.</p> <p><b>Idaho – GHZ:</b> —.</p> <p><b>Utah Habitat:</b> —.</p>	<p><b>F-VG-16: PHMA:</b> —.</p> <p><b>GHMA:</b> —.</p> <p><b>RHMA:</b> —.</p>

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-VG-17: —.</b>	<b>B-VG-17: PHMA:</b> Prioritize native seed allocation for use in Greater Sage-Grouse habitat in years when preferred native seed is in short supply. This may require reallocation of native seed from ESR (BLM) and/or BAER (Forest Service) projects outside of PHMA to those inside it. Use of native plant seeds for ESR or BAER seedlings is required based on availability, adaptation (site potential), and probability of success (Richards et al. 1998). Where probability of success or native seed availability is low, nonnative seeds may be used as long as they meet Greater Sage-Grouse habitat conservation objectives (Pyke 2011). Re-establishment of appropriate sagebrush species/subspecies and important understory plants, relative to site potential, shall be the highest priority for rehabilitation efforts.  <b>GHMA: —.</b>	<b>C-VG-17: PHMA:</b> Same as Alternative B.	<b>D-VG-17: PHMA:</b> Prioritize native seed allocation for use in Greater Sage-Grouse habitat in years when preferred native seed is in short supply. This may require reallocation of native seed from ESR (BLM) and/or BAER (Forest Service) projects outside of PHMA to those inside it. Where probability of success or native seed availability is low, nonnative seeds may be used as long as they meet Greater Sage-Grouse habitat conservation objectives (Pyke 2011). Re-establishment of appropriate sagebrush species/subspecies and important understory plants, relative to site potential, shall be the highest priority for rehabilitation efforts.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-VG-17: Idaho – CHZ:</b> Where the probability of obtaining sufficient native seed is low, nonnative seeds may be used provided Greater Sage-Grouse habitat objectives are met.  <b>Idaho – IHZ:</b> Same as Idaho - CHZ.  <b>Idaho – GHZ: —.</b>  <b>Utah Habitat: —.</b>	<b>F-VG-17: PHMA:</b> Same as Alternative B.  <b>GHMA: —.</b>  <b>RHMA: —.</b>
<b>A-VG-18:</b> All LUPs, which are written in accordance with applicable program direction, include management actions that allow the administrating agency to make adjustments to livestock grazing, wild horse and burro management, and travel management on a case-by case basis following restoration activities.	<b>B-VG-18: PHMA:</b> Design post ESR and BAER management to ensure long term persistence of seeded or pre-burn native plants. This may require temporary or long-term changes in livestock grazing, wild horse and burro, and travel management, etc., to achieve and maintain the desired condition of ESR and BAER projects to benefit Greater Sage-Grouse (Eiswerth and Shonkwiler 2006).  <b>GHMA: —.</b>	<b>C-VG-18: PHMA:</b> Same as Alternative B.	<b>D-VG-18: PHMA:</b> Design post fuel, restoration, and ESR management to ensure long term persistence of seeded or pre-burn native plants. Use chemical, mechanical, and seeding treatments with appropriate plant materials to attempt to stabilize sites and prevent dominance of invasive, annual vegetation, and noxious weeds. Use native plant materials were determined to be appropriate and practical at the project-implementation level. This may require temporary or long-term changes in livestock grazing, wild horse and burro, and travel management, fuels and rehabilitation, etc., to achieve and maintain the desired condition of ESR projects to benefit Greater Sage-Grouse (Eiswerth and Shonkwiler 2006).  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-VG-18: Idaho – Common to All Habitats: —.</b>  <b>Utah Habitat: —.</b>	<b>F-VG-18: PHMA:</b> Same as Alternative B.  <b>GHMA: —.</b>  <b>RHMA: —.</b>

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-VG-19:</b> —.	<b>B-VG-19: PHMA:</b> Consider potential changes in climate (Miller et al. 2011) when proposing post-fire seedings using native plants. Consider seed collections from the warmer component within a species' current range for selection of native seed. (Kramer and Havens 2009).  <b>GHMA:</b> —.	<b>C-VG-19: PHMA:</b> Same as Alternative B.	<b>D-VG-19: PHMA:</b> Consider utilizing the warmer component of a species' current range where feasible (financially, seed availability, etc.) when selecting native species for restoration and when such a strategy would not jeopardize the success of the seeding.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-VG-19: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-VG-19: PHMA:</b> Same as Alternative B.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-VG-20:</b> —.	<b>B-VG-20: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-VG-20: PHMA:</b> —.	<b>D-VG-20: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-VG-20: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-VG-20: PHMA:</b> Establish and strengthen networks with seed growers to assure availability of native seed for ESR projects.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-VG-21:</b> All LUPs, which are written in accordance with applicable program direction, include management actions that allow the administering agency to make adjustments to livestock grazing, wild horse and burro management, and travel management on a case-by case basis following restoration activities.	<b>B-VG-21: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-VG-21: PHMA:</b> —.	<b>D-VG-21: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-VG-21: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-VG-21: PHMA:</b> Post fire recovery must include establishing adequately sized exclosures (free of livestock grazing) that can be used to assess recovery.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-VG-22:</b> All LUPs, which are written in accordance with applicable program direction, include management actions that allow the administering agency to make adjustments to livestock grazing, wild horse and burro management, and travel management on a case-by case basis following restoration activities.	<b>B-VG-22: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-VG-22: PHMA:</b> —.	<b>D-VG-22: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-VG-22: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-VG-22: PHMA:</b> Livestock grazing should be excluded from burned areas until woody and herbaceous plants achieve Greater Sage-Grouse habitat objectives.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-VG-23:</b> All LUPs, which are written in accordance with applicable program direction, include management actions that allow the administering agency to make adjustments to livestock grazing, wild horse and burro management, and travel management on a case-by case basis following restoration activities.	<b>B-VG-23: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-VG-23: PHMA:</b> —.	<b>D-VG-23: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-VG-23: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-VG-23: PHMA:</b> Where burned Greater Sage-Grouse habitat cannot be fenced from other unburned habitat, the entire area (e.g., allotment/pasture) should be closed to grazing until recovered.  <b>GHMA:</b> —.  <b>RHMA:</b> —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<p><b>A-VG-24:</b> Most LUPs do not include specific management actions related to seedings.</p> <p>Plans do include generic decisions that allow maintenance of existing range improvements, which includes maintenance of historical seedings.</p> <p>Recently completed LUPs promote use of native species when conducting restoration activities. This would include restoration projects conducted in areas that have perennial grass cover.</p> <p>Older plans do not include a similar management action.</p>	<p><b>B-VG-24: PHMA:</b> Evaluate the role of existing seedings that are currently composed of primarily introduced perennial grasses in and adjacent to PHMA to determine if they should be restored to sagebrush or habitat of higher quality for Greater Sage-Grouse. If these seedings are part of an AMP/Conservation Plan or if they provide value in conserving or enhancing the rest of PHMA, then no restoration would be necessary. Assess the compatibility of these seedings for Greater Sage-Grouse habitat or as a component of a grazing system during the land health assessments (or other analyses [Forest Service only]) (Davies et al. 2011).</p> <p><b>GHMA:</b> —.</p>	<p><b>C-VG-24: PHMA:</b> —.</p>	<p><b>D-VG-24: PHMA:</b> Assess the compatibility of existing nonnative seedings for Greater Sage-Grouse habitat or as a component of a grazing system or forage reserve during land health assessments (Davies et al. 2011). Evaluate existing seedings currently dominated by introduced perennial grasses in and adjacent to PHMA to determine if they should be diversified with native grasses, forbs, and shrubs, including sagebrush. If these seedings are part of an AMP/Conservation Plan and if they provide value in conserving or enhancing the rest of PHMA, restoration may not be appropriate.</p> <p><b>IHMA:</b> Same as PHMA.</p> <p><b>GHMA:</b> Same as PHMA.</p>	<p><b>E-VG-24: Idaho – Common to All Habitats:</b> —.</p> <p><b>Utah Habitat:</b> —.</p>	<p><b>F-VG-24: PHMA:</b> Evaluate the role of existing seedings that are currently composed of primarily introduced perennial grasses in and adjacent to PHMA to determine if they should be restored to sagebrush or habitat of higher quality for Greater Sage-Grouse. If these seedings are part of an AMP/Conservation Plan or if they provide value in conserving or enhancing the rest of PHMA, then no restoration would be necessary. Assess the compatibility of these seedings for Greater Sage-Grouse habitat or as a component of a grazing system during the land health assessments (Davies et al. 2011).</p> <p><b>GHMA:</b> —.</p> <p><b>RHMA:</b> —.</p>
<p><b>A-VG-25:</b> —.</p>	<p><b>B-VG-25: PHMA:</b> —.</p> <p><b>GHMA:</b> —.</p>	<p><b>C-VG-25: PHMA:</b> —.</p>	<p><b>D-VG-25: PHMA:</b> —.</p> <p><b>IHMA:</b> —.</p> <p><b>GHMA:</b> —.</p>	<p><b>E-VG-25: Idaho – Common to All Habitats:</b> —.</p> <p><b>Utah Habitat:</b> —.</p>	<p><b>F-VG-25: PHMA:</b> Any vegetation treatment plan must include pretreatment data on wildlife and habitat condition, establish non-grazing exclosures, and include long-term monitoring where treated areas are monitored for at least three years before grazing returns. Continue monitoring for five years after livestock are returned to the area, and compare to treated, ungrazed exclosures, as well as untreated areas.</p> <p><b>GHMA:</b> —.</p> <p><b>RHMA:</b> —.</p>
<p><b>A-VG-26:</b> Many older LUPs include specific objectives for vegetation treatments that increased desirable forage species for livestock, usually focusing on reducing the sagebrush overstory. More recent LUPs generally prescribe management that moves rangeland communities toward historical vegetative conditions.</p>	<p><b>B-VG-26: PHMA:</b> —.</p> <p><b>GHMA:</b> —.</p>	<p><b>C-VG-26: PHMA:</b> —.</p>	<p><b>D-VG-26: PHMA:</b> —.</p> <p><b>IHMA:</b> —.</p> <p><b>GHMA:</b> —.</p>	<p><b>E-VG-26: Idaho – CHZ:</b> Initiate vegetative manipulation projects where sagebrush canopy cover exceeds optimal characteristics to promote grass and forb understory growth only where the project can be achieved without negatively impacting Greater Sage-Grouse.</p> <p><b>Idaho – IHZ:</b> Same as Idaho - CHZ.</p> <p><b>Idaho – GHZ:</b> —.</p> <p><b>Utah Habitat:</b> —.</p>	<p><b>F-VG-26: PHMA:</b> —.</p> <p><b>GHMA:</b> —.</p> <p><b>RHMA:</b> —.</p>

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-VG-27:</b> All LUPs address vegetation treatments for improvement of wildlife habitat overall or to provide increased forage for wildlife, livestock, and wild horses and burros.	<b>B-VG-27: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-VG-27: PHMA:</b> —.	<b>D-VG-27: PHMA:</b> Implement rehabilitation projects in areas that have the potential to provide for Greater Sage-Grouse habitat.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-VG-27: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-VG-27: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-VG-28:</b> —.	<b>B-VG-28: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-VG-28: PHMA:</b> —.	<b>D-VG-28: PHMA:</b> Make progress toward desired future condition in the Low-elevation Shrub, Perennial Grass, Invasive Annual Grass, Mid-Elevation Shrub, Mountain Shrubs, and Juniper vegetation types. Use chemical, mechanical, seeding, and prescribed fire treatments as appropriate to enhance and restore habitats that are currently in Fire Regime Condition Class (FRCC) 2 and FRCC3. In Perennial Grass, Invasive Annual Grass, and juniper-invaded cover types, restore sagebrush steppe with an aggressive sagebrush seeding effort, using the appropriate sagebrush subspecies for the treatment area. Conduct vegetation treatments in areas that pose a wildland fire risk to Greater Sage-Grouse habitats. Treat areas within Greater Sage-Grouse habitats that have low resiliency to disturbance (i.e., areas characterized by lower native plant species diversity than expected for the site, undesirable plant species composition, and dead or decadent sagebrush) to improve long-term habitat suitability for Greater Sage-Grouse. Treat Greater Sage-Grouse habitat and potential restoration areas to expand PHMA. Improve Greater Sage-Grouse potential restoration habitats (perennial grassland, annual grassland, conifer encroachment areas) and maintain or improve sagebrush portions of PHMA. Conduct vegetation treatments (including fuel breaks) in restoration and key habitats to reduce risk of wildland fire and reconnect PHMA. Make progress toward Desired Future Condition in historically frequent fire regimes (Aspen/Conifer, Dry Conifer, Mid-Elevation Shrub encroached by juniper, Mountain Shrub by increasing wildfire managed for LUP objectives and prescribed fire to create a fire regime within the historical range of variability.	<b>E-VG-28: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-VG-28: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.



Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
(see above)	(see above)	(see above)	Use mechanical and chemical treatments to prepare areas in FRCC2 and FRCC3 for prescribed fire. Monitor and control invasive vegetation post-treatment. Rest treated areas from grazing or modify grazing until vegetation objectives have been met. Ensure that any proposed sagebrush treatment acreage is conservative in the context of surrounding seasonal habitats and landscape. Monitor and if necessary control invasive vegetation post-treatment.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	(see above)	(see above)
<b>A-VG-29:</b> Allow treatments that provide benefits for multiple resources. Additional forage will be appropriated to livestock, wild horses and burros (where applicable), and wildlife.	<b>B-VG-29: PHMA:</b> Only allow treatments that conserve, enhance or restore Greater Sage-Grouse habitat (this includes treatments that benefit livestock as part of an AMP/Conservation Plan to improve Greater Sage-Grouse habitat).  <b>GHMA:</b> —.	<b>C-VG-29: PHMA:</b> —.	<b>D-VG-29: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-VG-29: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-VG-29: PHMA:</b> Ensure that vegetation treatments Restore native (or desirable) plants and create landscape patterns which most benefit Greater Sage-Grouse. Only allow treatments that conserve, enhance, or restore Greater Sage-Grouse habitat are demonstrated to benefit Greater Sage-Grouse and retain sagebrush height and cover consistent with Greater Sage-Grouse habitat objectives (this includes treatments that benefit livestock as part of an AMP/Conservation Plan to improve Greater Sage-Grouse habitat).  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-VG-30:</b> —.	<b>B-VG-30: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-VG-30: PHMA:</b> —.	<b>D-VG-30: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-VG-30: Idaho – Common to All Habitats:</b> The State will establish a mitigation bank of Greater Sage-Grouse habitation restoration projects that future development projects would repay through compensatory mitigation requirements.  <b>Utah Habitat:</b> —.	<b>F-VG-30: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Integrated Invasive Species					
<p><b>A-IIS-1:</b> Implement noxious weed and invasive species control using integrated weed management actions per national guidance and local weed management plans in cooperation with State and Federal agencies, affected counties, and adjoining private lands owners. In most LUPs, either no priorities are established or prioritization is given to projects that benefit multiple resources (e.g., livestock, wildlife, wild horses and burros, special status species).</p> <p>Montana BLM: Implement noxious weed and invasive species control, using integrated weed management, in cooperation with state and federal agencies, counties, and private landowners (ROD, p. 49, Action 11.). Emphasize control of invasive weeds in occupied Greater Sage-Grouse breeding habitat</p>	<p><b>B-IIS-1: PHMA:</b> Integrated Vegetation Management would be used to control, suppress, and eradicate, where possible, noxious and invasive species per BLM Handbook H-1740-2.</p> <p><b>GHMA:</b> —.</p>	<p><b>C-IIS-1: PHMA:</b> —.</p>	<p><b>D-IIS-1: PHMA:</b> Implement integrated weed management actions for noxious and invasive weed populations that are impacting or threatening Greater Sage-Grouse habitat quality. In concert with partners and/or weed management areas as appropriate apply education, inventory, prevention, control, rehabilitation, and monitoring strategies that protect or enhance Greater Sage-Grouse habitat.</p> <p><b>IHMA:</b> Same as PHMA.</p> <p><b>GHMA:</b> Same as PHMA.</p>	<p><b>E-IIS-1: Idaho – CHZ:</b> Actively manage exotic undesirable species sufficiently to limit presence and prevent invasion.</p> <p><b>Idaho – IHZ:</b> Actively manage exotic undesirable species to limit presence and prevent invasion in CHZ without impairing Greater Sage-Grouse populations.</p> <p><b>Idaho – GHZ:</b> Aggressively manage exotic undesirable species in conjunction with coordinated weed management areas to limit presence and prevent invasion into other management zones.</p> <p><b>Montana Habitat:</b> Same as Alternative A.</p> <p><b>Utah Habitat:</b> Aggressively respond to new infestations to keeping invasive species from spreading. Every effort should be made to identify and treat new infestations before they become larger problems. Containment of known infestations in or near sagebrush habitats should be a high priority for all land management agencies.</p>	<p><b>F-IIS-1: PHMA:</b> —.</p> <p><b>GHMA:</b> —.</p> <p><b>RHMA:</b> —.</p>
<p><b>A-IIS-2:</b> —.</p>	<p><b>B-IIS-2: PHMA:</b> —.</p> <p><b>GHMA:</b> —.</p>	<p><b>C-IIS-2: PHMA:</b> —.</p>	<p><b>D-IIS-2: PHMA:</b> —.</p> <p><b>IHMA:</b> —.</p> <p><b>GHMA:</b> —.</p>	<p><b>E-IIS-2: Idaho – CHZ:</b> Control invasive vegetation within post-wildfire treatment areas for at least three years post treatment.</p> <p><b>Idaho – IHZ:</b> Same as Idaho - CHZ.</p> <p><b>Idaho – GHZ:</b> —.</p> <p><b>Utah Habitat:</b> Immediate, proactive means to reduce or eliminate the spread of invasive species, particularly cheatgrass, after a wildfire, is a high priority.</p>	<p><b>F-IIS-2: PHMA:</b> —.</p> <p><b>GHMA:</b> —.</p> <p><b>RHMA:</b> —.</p>

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-IIS-3:</b> Implement noxious weed and invasive species control using integrated weed management actions per national guidance and local weed management plans in cooperation with State and Federal agencies, affected counties, and adjoining private lands owners.	<b>B-IIS-3: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-IIS-3: PHMA:</b> —.	<b>D-IIS-3: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-IIS-3: Idaho – CHZ:</b> —.  <b>Idaho – IHZ:</b> Eradicate or control noxious weeds and/or invasive species posing a risk to Greater Sage-Grouse habitats using a variety of chemical, mechanical and other appropriate means in coordination with the local Cooperative Weed Management Area.  <b>Idaho – GHZ:</b> Same as IHZ.  <b>Utah Habitat:</b> —.	<b>F-IIS-3: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-IIS-4:</b> Implement noxious weed and invasive species control using integrated weed management actions per national guidance and local weed management plans in cooperation with State and Federal agencies, affected counties, and adjoining private lands owners.	<b>B-IIS-4: PHMA:</b> Monitor for, and treat invasive species associated with existing range improvements (Gelbard and Belnap 2003; Bergquist et al. 2007).  <b>GHMA:</b> —.	<b>C-IIS-4: PHMA:</b> —.	<b>D-IIS-4: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-IIS-4: Idaho – CHZ:</b> Treat and monitor invasive species associated with existing range improvements.  <b>Idaho – IHZ:</b> Same as Idaho - CHZ.  <b>Idaho – GHZ:</b> —.  <b>Utah Habitat:</b> —.	<b>F-IIS-4: PHMA:</b> Same as Alternative B.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-IIS-5:</b> —.	<b>B-IIS-5: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-IIS-5: PHMA:</b> —.	<b>D-IIS-5: PHMA:</b> Following project construction treat noxious weeds and invasive species, establish desirable perennial vegetation to compete with invasive species on disturbed areas, and monitor and continue treating the project area for noxious weed and invasive species for at least 3 years, unless control is achieved earlier.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-IIS-5: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-IIS-5: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>Wild Horse and Burro</b>					
<b>A-WHB-I:</b> Prepare or amend herd management area plans on an as-needed basis.	<b>B-WHB-I: PHMA:</b> Develop or amend BLM Herd Management Area Plans and Forest Service Wild Horse Territory Plans to incorporate Greater Sage-Grouse habitat objectives and management considerations for all BLM HMAs) and Forest Service Wild Horse Territories.  <b>GHMA:</b> —.	<b>C-WHB-I: PHMA:</b> Same as Alternative A.	<b>D-WHB-I: PHMA:</b> Same as Alternative B.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-WHB-I: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> Same as Alternative A.	<b>F-WHB-I: PHMA:</b> Reduce AMLs within HMAs within occupied Greater Sage-Grouse habitat by 25 percent to meet habitat objectives.  <b>GHMA:</b> Same as PHMA  <b>RHMA:</b> —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-WHB-2:</b> Periodically evaluate and make adjustments to AMLs based on monitoring data.	<b>B-WHB-2: PHMA:</b> For all BLM HMAs and Forest Service Wild Horse Territories within PHMA, prioritize the evaluation of all AMLs based on indicators that address structure/condition/composition of vegetation and measurements specific to achieving Greater Sage-Grouse habitat objectives.  <b>GHMA:</b> —.	<b>C-WHB-2: PHMA:</b> Same as Alternative A.	<b>D-WHB-2: PHMA:</b> When evaluating AML on HMAs within PHMA, evaluate indicators that address structure/condition/composition of vegetation and measurements specific to achieving Greater Sage-Grouse habitat objectives.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-WHB-2: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> Same as Alternative A.	<b>F-WHB-2: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-WHB-3:</b> —.	<b>B-WHB-3: PHMA:</b> Coordinate with other resources (Range, Wildlife, and Riparian) to conduct land health assessments to determine existing structure/condition/composition of vegetation within all BLM HMAs and Forest Service Wild Horse Territories.  <b>GHMA:</b> —.	<b>C-WHB-3: PHMA:</b> Same as Alternative A.	<b>D-WHB-3: PHMA:</b> Utilize interdisciplinary land health assessments in HMAs containing Greater Sage-Grouse habitat to determine whether vegetation characteristics are meeting appropriate seasonal habitat objectives.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-WHB-3: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-WHB-3: PHMA:</b> Same as Alternative B.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-WHB-4:</b> —.	<b>B-WHB-4: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-WHB-4: PHMA:</b> —.	<b>D-WHB-4: PHMA:</b> Do not expand HMAs.  <b>IHMA:</b> Analysis of proposed additions to existing HMA boundaries should consider the direct, indirect and cumulative impacts on Greater Sage-Grouse habitat, including the need for additional infrastructure such as boundary fencing, and consider alternative areas outside of PHMA and IHMA.  <b>GHMA:</b> —.	<b>E-WHB-4: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-WHB-4: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-WHB-5:</b> —.	<b>B-WHB-5: PHMA:</b> When conducting NEPA analysis for wild horse and burro management activities, water developments or other rangeland improvements for wild horses in PHMA, address the direct and indirect effects on Greater Sage-Grouse populations and habitat. Implement any water developments or rangeland improvements using the criteria identified for domestic livestock identified above in PHMA.  <b>GHMA:</b> —.	<b>C-WHB-5: PHMA:</b> —.	<b>D-WHB-5: PHMA:</b> Refer to livestock grazing actions for guidance on water and rangeland developments for wild horse management.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-WHB-5: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-WHB-5: PHMA:</b> Same as Alternative B.  <b>GHMA:</b> —.  <b>RHMA:</b> —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Wildland Fire					
General					
<b>A-WFM-1:</b> Follow BMPs for fire and fuels (BLM Washington Office IM 2013-128, see Appendix B [of the 2015 Final EIS]).	<b>B-WFM-1: PHMA:</b> Follow RDFs for fire and fuels (BLM Washington Office IM 2013-128 and Forest Service Washington Office letter 5100, see Appendix B [of the 2015 Final EIS]).  <b>GHMA:</b> —.	<b>C-WFM-1: PHMA:</b> Same as Alternative B.	<b>D-WFM-1: PHMA:</b> Same as Alternative B.  <b>IHMA:</b> BMPs in PHMA would apply to both IHMA and GHMA.  <b>GHMA:</b> BMPs in PHMA would apply to both IHMA and GHMA.	<b>E-WFM-1: Idaho – CHZ:</b> Reduce the number and size of wildfires in Greater Sage-Grouse habitat through incorporation of the BLM Washington Office IM 2013-128.  <b>Idaho – IHZ:</b> Same as Idaho - CHZ.  <b>Idaho – GHZ:</b> Same as Idaho - CHZ.  <b>Utah Habitat:</b> —.	<b>F-WFM-1: PHMA:</b> Same as Alternative B.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-WFM-2:</b> —.	<b>B-WFM-2: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-WFM-2: PHMA:</b> Lands will be managed to be in good or better ecological condition to help minimize adverse impacts of fire.	<b>D-WFM-2: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-WFM-2: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-WFM-2: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-WFM-3:</b> —.	<b>B-WFM-3: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-WFM-3: PHMA:</b> —..	<b>D-WFM-3: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-WFM-3: Idaho – CHZ:</b> Decrease wildfire response time through: a. Prioritizing, maintaining and improving a high initial attack success rate in suppression response and staging decisions; b. Utilizing available Sage-Grouse Management Area maps and spatial data depicting Greater Sage-Grouse habitats within this zone in accordance with action 31 (Appendix Q [of the 2015 Final EIS]); c. Redeploying firefighting resources not being fully utilized outside the SGMA to the extent such redeployment will not cause harm to human safety and structure protection; and d. Requesting the necessary federal appropriations to achieve this objective.  Develop a consistent wildfire suppression plan that improves upon the current baseline, and a fuel and restoration strategy within 1 year of the ROD.  <b>Idaho – IHZ:</b> Same as Idaho- CHZ.  <b>Idaho – GHZ:</b> —.  <b>Utah Habitat:</b> —.	<b>F-WFM-3: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
A-WFM-4: —.	B-WFM-4: PHMA: —.  GHMA: —.	C-WFM-4: PHMA: —.	D-WFM-4: PHMA: Use knowledgeable resource advisors during extended attack. Resource Advisors should also be available on short notice during red flag conditions.  IHMA: Same as PHMA.  GHMA: Same as PHMA.	E-WFM-4: Idaho Common to All Habitats: —.  Utah Habitat: —.	F-WFM-4: PHMA: —.  GHMA: —.  RHMA: —.
A-WFM-5: —.	B-WFM-5: PHMA: —.  GHMA: —.	C-WFM-5: PHMA: —.	D-WFM-5: PHMA: During high fire danger conditions, stage initial attack and secure additional resources closer to the Idaho Desert, Southern Idaho, and Owyhee populations to ensure quicker response times in or near Greater Sage-Grouse habitat.  IHMA: —.  GHMA: —.	E-WFM-5: Idaho -- Common to All Habitats: —.  Utah Habitat: —.	F-WFM-5: PHMA: —.  GHMA: —.  RHMA: —.
A-WFM-6: —.	B-WFM-6: PHMA: —.  GHMA: —.	C-WFM-6: PHMA: —.	D-WFM-6: PHMA: —.  IHMA: Follow Standard procedures described in Fire Management Plan.  GHMA: —.	E-WFM-6: Idaho -- Common to All Habitats: —.  Utah Habitat: —.	F-WFM-6: PHMA: —.  GHMA: —.  RHMA: —.
A-WFM-7: —.	B-WFM-7: PHMA: —.  GHMA: —.	C-WFM-7: PHMA: —.	D-WFM-7: PHMA: Consider conifer (juniper) encroachment areas as areas to manage wildfire for resource benefit.  IHMA: Same as PHMA.  GHMA: Same as PHMA.	E-WFM-7: Idaho -- Common to All Habitats: —.  Utah Habitat: —.	F-WFM-7: PHMA: —.  GHMA: —.  RHMA: —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
A-WFM-8: —.	B-WFM-8: PHMA: —.  GHMA: —.	C-WFM-8: PHMA: —.	D-WFM-8: PHMA: —.  IHMA: —.  GHMA: —.	E-WFM-8: Idaho – Common to All Habitats: Reduce the number and size of wildfires, especially in the West Owyhee CA, by marshaling existing and targeting future federal resources.  Idaho – CHZ: Utilize and employ more aggressive wildfire and invasive species management practices to prevent further encroachment of these two primary threats into CHZ on Federal lands.  Idaho – IHZ: Same as Idaho - CHZ.  Idaho – GHZ: —.  Utah Habitat: Create and implement a statewide fire agency agreement(s) that will eliminate jurisdictional boundaries and allow for immediate response to natural fire in PHMA. These should include fire suppression actions recommended locally, including, but not limited to: <ul style="list-style-type: none"><li>• first strike agreements that allow aggressive fire control on an all-land jurisdictional basis;</li><li>• allocation of resources to maintain enhanced abilities of all fire agencies to combat ignitions in PHMA.</li><li>• allocation of resources to immediately commence restoration of habitats impacted by wildfire by all responsible agencies; and</li><li>• removal or establishment of waiver provisions for procedural barriers that may impact the ability of responsible agencies to respond to wildfire with effective reclamation or rehabilitation, such as federal raptor stipulations, cultural assessments, and the like.</li></ul>	F-WFM-8: PHMA: —.  GHMA: —.  RHMA: —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-WFM-9: —.</b>	<b>B-WFM-9: PHMA: —.</b>  <b>GHMA: —.</b>	<b>C-WFM-9: PHMA: —.</b>	<b>D-WFM-9: PHMA:</b> BLM and Forest Service planning units (Districts and Forests), in coordination with the USFWS and relevant state agencies, would complete and continue to update Greater Sage-Grouse Landscape Wildfire and Invasive Species Habitat Assessments to prioritize at risk habitats, and identify fuels management, preparedness, suppression and restoration priorities necessary to maintain sagebrush habitat to support interconnecting Greater Sage-Grouse populations. These assessments and subsequent assessment updates would also be a coordinated effort with an interdisciplinary team to take into account other Greater Sage-Grouse priorities identified in this plan. Appendix D [of the 2015 Final EIS] describes a minimal framework example and suggested approach for this assessment.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-WFM-9: Idaho – Common to All Habitats: —.</b>  <b>Utah Habitat: —.</b>	<b>F-WFM-9: PHMA: —.</b>  <b>GHMA: —.</b>  <b>RHMA: —.</b>
<b>A-WFM-10: —.</b>	<b>B-WFM-5: PHMA: —.</b>  <b>GHMA: —.</b>	<b>C-WFM-10: PHMA: —.</b>	<b>D-WFM-10: PHMA:</b> Implementation actions will be tiered to the Local (District/Forest) Greater Sage-Grouse Landscape Wildfire and Invasive Species Assessment described in D-WFM-1, utilizing best available science related to the conservation of Greater Sage-Grouse.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-WFM-10: Idaho – Common to All Habitats: —.</b>  <b>Utah Habitat: —.</b>	<b>F-WFM-10: PHMA: —.</b>  <b>GHMA: —.</b>  <b>RHMA: —.</b>



Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-WFM-11: —.</b>	<b>B-WFM-11: PHMA: —.</b>  <b>GHMA: —.</b>	<b>C-WFM-11: PHMA: —.</b>	<b>D-WFM-11: PHMA:</b> In coordination with the USFWS and relevant state agencies, BLM and Forest Service planning units (Districts/Forests) will identify annual treatment needs for wildfire and invasive species management as identified in local unit level Landscape Wildfire and Invasive Species Assessments. Annual treatment needs will be coordinated across state/regional scales and across jurisdictional boundaries for long-term conservation of Greater Sage-Grouse.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-WFM-11: Idaho – Common to All Habitats: —.</b>  <b>Utah Habitat: —.</b>	<b>F-WFM-11: PHMA: —.</b>  <b>GHMA: —.</b>  <b>RHMA: —.</b>
<b>A-WFM-12: —.</b>	<b>A-WFM-12: PHMA: —.</b>  <b>GHMA: —.</b>	<b>C-WFM-12: PHMA: —.</b>	<b>D-WFM-12: PHMA:</b> Annually complete a review of landscape assessment implementation efforts with appropriate USFWS and state agency personnel.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-WFM-12: Idaho – Common to All Habitats: —.</b>  <b>Utah Habitat: —.</b>	<b>F-WFM-12: PHMA: —.</b>  <b>GHMA: —.</b>  <b>RHMA: —.</b>
<b>Fuels Management</b>					
<b>A-FM-1: Under current management, there is no designated Greater Sage-Grouse habitat.</b>  Design projects to minimize the size of wildfire and prevent the further loss of sagebrush.  Existing LUPs typically do not include specific management decisions regarding implementation of fuels treatments in sagebrush habitat. In general, both prescribed fire and non-fire fuels treatments are allowed.  Montana BLM: Restore and maintain desired ecological conditions and fuel loadings. Evaluate benefits against loss of sagebrush in EA process. Do not burn Wyoming sagebrush.	<b>B-FM-1: PHMA:</b> Design and implement fuels treatments with an emphasis on protecting existing sagebrush ecosystems. Do not reduce sagebrush canopy cover to less than 15% (Connelly et al. 2000, Hagen et al. 2007) unless a fuels management objective requires additional reduction in sagebrush cover to meet strategic protection of PHMA and conserve habitat quality for the species. Closely evaluate the benefits of the fuel break against the additional loss of sagebrush cover in future NEPA documents. Apply appropriate seasonal restrictions for implementing fuels management treatments according to the type of seasonal habitats present in PHMA. Allow no fuels treatments in known winter range unless the treatments are designed to strategically reduce wildfire risk around or in the winter range and will maintain winter range habitat quality. Do not use fire to treat sagebrush in less than 12-inch precipitation zones (e.g., Wyoming big sagebrush or other xeric sagebrush	<b>C-FM-1: PHMA:</b> Same as Alternative B.	<b>D-FM-1: PHMA:</b> Design and implement fuels treatments with an emphasis on maintaining, protecting, and expanding sagebrush ecosystems and successfully rehabilitated areas and strategically and effectively reduce wildfire threats in the greatest area. Enhance (or maintain/retain) sagebrush canopy cover and community structure to match expected potential for the ecological site and consistent with Greater Sage-Grouse habitat objectives unless fuels management objectives requires additional reduction in sagebrush cover to meet strategic protection of Greater Sage-Grouse habitat. Closely evaluate the benefits of the fuel management treatments against the additional loss of sagebrush cover on the local landscape in the NEPA process. Apply appropriate seasonal restrictions for implementing fuels management treatments according to the type of seasonal habitats present in PHMA. Allow no treatments in known winter range unless the treatments are designed to strategically reduce wildfire	<b>E-FM-1: Idaho – CHZ:</b> Implementation of specific, more aggressive wildlife and invasive species management practices to prevent further encroachment into CHZ should be driven by local planning efforts at the field office and ranger district level.  <b>Idaho – IHZ:</b> Same as Idaho - CHZ.  <b>Idaho – GHZ: —.</b>  <b>Montana Habitat:</b> Same as Alternative A.  <b>Utah Habitat:</b> Habitat loss due to fire and replacement of (burned) native vegetation by invasive plants is the single greatest threat to Greater Sage-Grouse in Utah. While unscheduled fires may occur, response to fire can have a large impact on the severity of the effects, especially over time as rehabilitation or restoration continues. Implement the following:	<b>F-FM-1: PHMA:</b> Design and implement fuels treatments with an emphasis on protecting existing sagebrush ecosystems. Do not reduce sagebrush canopy cover to less than 15% (Connelly et al. 2000, Hagen et al. 2007) unless a fuels management objective requires additional reduction in sagebrush cover to meet strategic protection of PHMA and conserve habitat quality for the species. Closely evaluate the benefits of the fuel break against the additional loss of sagebrush cover in the EA process. Apply appropriate seasonal restrictions for implementing fuels management treatments according to the type of seasonal habitats present in PHMA. Allow no fuels treatments in known winter range unless the treatments are designed to strategically reduce wildfire risk around or in the winter range and will maintain winter range habitat quality. Do not use fire to treat sagebrush in less than 12-inch precipitation zones (e.g., Wyoming big sagebrush or other xeric sagebrush species; Connelly et al. 2000,

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
(see above)	<p>species; Connelly et al. 2000, Hagen et al. 2007, Beck et al. 2009). However, if as a last resort and after all other treatment opportunities have been explored and site specific variables allow, the use of prescribed fire for fuel breaks that would disrupt the fuel continuity across the landscape could be considered, in stands where cheatgrass is a very minor component in the understory (Brown 1982). Monitor and control invasive vegetation post-treatment. Rest treated areas from grazing for two full growing seasons unless vegetation recovery dictates otherwise (WGFD 2011). Require use of native seeds for fuels management treatment based on availability, adaptation (site potential), and probability of success (Richards et al. 1998). Where probability of success or native seed availability is low, nonnative seeds may be used as long as they meet Greater Sage-Grouse habitat objectives (Pyke 2011). Design post fuels management projects to ensure long term persistence of seeded or pre-treatment native plants. This may require temporary or long-term changes in livestock grazing management, wild horse and burro management, travel management, or other activities to achieve and maintain the desired condition of the fuels management project (Eiswerth and Shonkwiler 2006).</p> <p><b>GHMA:</b> —.</p>	(see above)	<p>risk around and/or in the winter range and will maintain, increase, or enhance winter range habitat quality. Ensure chemical applications are utilized where they would assist in success of fuels treatments. Strategically place treatments on a landscape scale to prevent fire from spreading into PHMA or WUI.</p> <p><b>IHMA:</b> Same as PHMA.</p> <p><b>GHMA:</b> Same as PHMA.</p>	<ul style="list-style-type: none"><li>• Create and implement a statewide fire agency agreement(s) that will eliminate jurisdictional boundaries and allow for immediate response to natural fire in PHMA.</li><li>• Allow use of fire-retardant vegetation that will buffer areas of high quality Greater Sage-Grouse habitat from catastrophic fire.</li><li>• Use prescriptive fire with caution in sagebrush habitat. The WAFWA has prepared information that explains the risks from using prescribed fire in xeric sagebrush habitats.</li><li>• Prescribed fire should only be used at higher elevations and in a manner designed prescriptively to benefit Greater Sage-Grouse.</li><li>• Conduct effective research into controlling fire size and protecting remaining Greater Sage-Grouse areas that are adjacent to high-risk cheatgrass areas.</li><li>• Focus research efforts on effective reclamation and restoration of landscapes altered by wildfire.</li><li>• Within winter habitat, manage to maintain maximum amount of sagebrush, especially tall sagebrush, which would be available to Greater Sage-Grouse above snow during a severe winter. Tall sagebrush is capable of standing above heavier than normal snowfall.</li><li>• Sagebrush treatment projects within winter habitat need pre-approval by the appropriate regulatory agency in coordination with the Utah Department of Wildlife Resources. Sagebrush treatment projects within winter habitat should maintain 80% of the available habitat as tall sagebrush; 20% of the habitat can be managed for younger age classes, if appropriate.</li><li>• Coordinate the needs and efforts related to Greater Sage-Grouse with the State of Utah committee that was formed to develop a collaborative process to protect the health and welfare by reducing the size and frequency of catastrophic fires.</li></ul>	<p>Hagen et al. 2007, Beck et al. 2009). However, if as a last resort and after all other treatment opportunities have been explored and site specific variables allow, the use of prescribed fire for fuel breaks that would disrupt the fuel continuity across the landscape could be considered, in stands where cheatgrass is a very minor component in the understory (Brown 1982). Monitor and control invasive vegetation post-treatment. Rest treated areas from grazing for two full growing seasons unless vegetation recovery dictates otherwise (WGFD 2011). Require use of native seeds for fuels management treatment based on availability, adaptation (site potential), and probability of success (Richards et al. 1998). Where probability of success or native seed availability is low, nonnative seeds may be used as long as they meet Greater Sage-Grouse habitat objectives (Pyke 2011). Design post fuels management projects to ensure long term persistence of seeded or pre-treatment native plants, including sagebrush. This may require temporary or long-term changes in livestock grazing management, wild horse and burro management, travel management, or other activities to achieve and maintain the desired condition of the fuels management project (Eiswerth and Shonkwiler 2006).</p> <p><b>GHMA:</b> —.</p> <p><b>RHMA:</b> —.</p>

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-FM-2:</b> Design projects to minimize the size of wildfire and prevent the further loss of sagebrush.	<b>B-FM-2: PHMA:</b> Design fuels management projects in PHMA to strategically and effectively reduce wildfire threats in the greatest area. This may require fuels treatments implemented in a more linear versus block design (Launchbaugh et al. 2007).  <b>GHMA:</b> —.	<b>C-FM-2: PHMA:</b> Same as Alternative B.	<b>D-FM-2: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-FM-2: Idaho – CHZ:</b> Fuel break prioritization should be in areas within the WUI where human life and safety are at risk. Fuel break projects should be designed to secure the WUI and free up firefighting resources to be focused on providing initial attack on wildfires in areas that have the potential to impact Greater Sage-Grouse within CHZ and IHZ. Prioritization of fuel breaks should then go to areas of high human ignition.  <b>Idaho – IHZ:</b> Same as Idaho - CHZ.  <b>Idaho – GHZ:</b> —.  <b>Utah Habitat:</b> —.	<b>F-FM-2: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
A-FM-3: —.	B-FM-3: PHMA: —.  GHMA: —.	C-FM-3: PHMA: —.	D-FM-3: PHMA: —.  IHMA: Same as PHMA.  GHMA: Same as PHMA.	E-FM-3: Idaho – CHZ: —.  Idaho – IHZ: Create and maintain effective fuel breaks in strategic locations that will modify fire behavior and increase fire suppression effectiveness through: a. Establishing fuel breaks along existing roads or other disturbances. b. Identifying and targeting higher-risk roads for fuel break construction and maintenance based on fire history maps. c. Implementing a strategic approach to using these roads for rapid fire response. d. Closely evaluating the benefits of the fuel break against the additional loss of sagebrush cover and risk of invasive weeds. e. Maintaining fire breaks properly.  Idaho – GHZ: Create and maintain effective fuel breaks in strategic locations that will modify fire behavior and increase fire suppression effectiveness through targeting areas necessary to provide a buffer between GHZ and the other management zones: a. Establishing fuel breaks along existing roads or other disturbances. b. Identifying and targeting higher-risk roads for fuel break construction and maintenance based on fire history maps. c. Implementing a strategic approach for using these roads to enable rapid fire response. d. Maintaining fuel breaks properly and siting with consideration of active leks and risk of invasive weeds.  Utah Habitat: —.	F-FM-3: PHMA: —.  GHMA: —.  RHMA: —.
A-FM-4: —.	B-FM-4: PHMA: —.  GHMA: —.	C-FM-4: PHMA: —.	D-FM-4: PHMA: —.  IHMA: —.  GHMA: —.	E-FM-4: Idaho – CHZ: —.  Idaho – IHZ: Coordinate with Federal, State and local jurisdictions on fire and litter prevention programs to reduce human caused ignitions.  Idaho – GHZ: —.  Utah Habitat: —.	F-FM-4: PHMA: —.  GHMA: —.  RHMA: —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-FM-5:</b> Design fuels treatment projects to minimize the size of wildfire and prevent the further loss of sagebrush.	<b>B-FM-5: PHMA:</b> —. <b>GHMA:</b> —.	<b>C-FM-5: PHMA:</b> Mowing of grass will be used in any fuel break fuels reduction project (roadsides or other areas).	<b>D-FM-5: PHMA:</b> —. <b>IHMA:</b> —. <b>GHMA:</b> —.	<b>E-FM-5: Idaho – Common to All Habitats:</b> —. <b>Utah Habitat:</b> —.	<b>F-FM-5: PHMA:</b> —. <b>GHMA:</b> —. <b>RHMA:</b> —.
<b>A-FM-6:</b> —.	<b>B-FM-6: PHMA:</b> During fuels management project design, consider the utility of using livestock to strategically reduce fine fuels (Diamond et al. 2009), and implement grazing management that will accomplish this objective (Davies et al. 2011, Launchbaugh et al. 2007). Consult with ecologists to minimize impacts on native perennial grasses. <b>GHMA:</b> —.	<b>C-FM-6: PHMA:</b> Same as Alternative B.	<b>D-FM-6: PHMA:</b> Grazing to achieve fuels management objectives should conform to the following criteria: <ul style="list-style-type: none"><li>Grazing management should be implemented strategically on the landscape, and directly involve the minimum footprint and grazing intensity required to meet fuels management objectives.</li><li>Conform to the Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management in areas where the Standards apply.</li><li>Coordinate with the permittee to coordinate fuels reduction by livestock within the Mandatory Terms and Conditions of the applicable grazing authorizations. However, in some cases targeted grazing may be authorized or contracted to a non-permit holder to achieve desired fuels reduction.</li><li>Use the appropriate kind and number of animals at the appropriate season, considering vegetation palatability and livestock preferences, to reduce targeted fuels types.</li></ul> <b>IHMA:</b> Same as PHMA. <b>GHMA:</b> Same as PHMA.	<b>E-FM-6: Idaho – CHZ:</b> Prescribe or target livestock grazing where demonstrated to be appropriate as a tool for reducing fuel loads, reducing invasive species populations and maintaining functional fire breaks and testing the effectiveness and monitoring the results on a site-specific basis through stewardship contracting.  <b>Idaho – IHZ:</b> Same as Idaho – CHZ.  <b>Idaho – GHZ:</b> Prescribe or target livestock grazing as a primary tool for reducing fuel loads, reducing invasive species populations and maintaining functional fire breaks to the extent such activities do not adversely affect breeding habitats (i.e., occupied leks, nesting and early brood-rearing).  <b>Utah Habitat:</b> Consider the use of prescriptive grazing to specifically reduce fire size and intensity on all types of landownership, where appropriate. This could be particularly effective in areas where cheatgrass is encroaching on sagebrush habitat. This will require cooperation and coordination among different land managers and owners and livestock owners. In some cases feed supplementation and water hauling may need to be utilized to obtain the desired results.	<b>F-FM-6: PHMA:</b> —. <b>GHMA:</b> —. <b>RHMA:</b> —.
<b>A-FM-7:</b> —.	<b>B-FM-7: PHMA:</b> —. <b>GHMA:</b> —.	<b>C-FM-7: PHMA:</b> —.	<b>D-FM-7: PHMA:</b> Existing and proposed linear ROWs could be considered for use and maintenance as vegetated fuel breaks in appropriate areas to meet fire management goals and objectives.  <b>IHMA:</b> Same as PHMA. <b>GHMA:</b> Same as PHMA.	<b>E-FM-7: Idaho – Common to All Habitats:</b> —. <b>Utah Habitat:</b> —.	<b>F-FM-7: PHMA:</b> —. <b>GHMA:</b> —. <b>RHMA:</b> —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
A-FM-8: —.	B-FM-8: PHMA: —.  GHMA: —.	C-FM-8: PHMA: —.	D-FM-8: PHMA: Where appropriate fuel breaks would incorporate existing vegetation treatments (seedings) or be located adjacent to existing linear disturbance areas. Fuel breaks should be placed in areas with the greatest likelihood of intersecting a fire and protecting existing intact habitat.  IHMA: Same as PHMA.  GHMA: Same as PHMA.	E-FM-8: Idaho – Common to All Habitats: —.  Utah Habitat: —.	F-FM-8: PHMA: —.  GHMA: —.  RHMA: —.
A-FM-9: —.	B-FM-9: PHMA: —.  GHMA: —.	C-FM-9: PHMA: —.	D-FM-9: PHMA: Strategically pre-treat areas to reduce fine fuels through mechanical treatments, grazing strategies, chemical or biological application (brown stripping).  IHMA: Same as PHMA.  GHMA: Same as PHMA.	E-FM-9: Idaho – Common to All Habitats: —.  Utah Habitat: —.	F-FM-9: PHMA: —.  GHMA: —.  RHMA: —.
A-FM-10: —.	B-FM-10: PHMA: —.  GHMA: —.	C-FM-10: PHMA: —.	D-FM-10: PHMA: —.  IHMA: —.  GHMA: —.	E-FM-10: Idaho – CHZ: —.  Idaho – IHZ: Develop more aggressive strategies to reduce fuel loads, where appropriate.  Idaho – GHZ: —.  Utah Habitat: —.	F-FM-10: PHMA: —.  GHMA: —.  RHMA: —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-FM-11: —.</b>	<b>B-FM-11: PHMA: —.</b>  <b>GHMA: —.</b>	<b>C-FM-11: PHMA:</b> Any fuels treatments will focus on interfaces with human habitation or significant existing disturbances.	<b>D-FM-11: PHMA:</b> Fuel treatments will be designed though an interdisciplinary process to expand, enhance, maintain, and protect Greater Sage-Grouse habitat. Use green strips and/or fuel breaks, where appropriate, to protect seeding efforts from subsequent fire events.  In coordination with the USFWS and relevant state agencies, BLM and Forest Service planning units (Districts/Forests) with large blocks of Greater Sage-Grouse habitat will develop, using the assessment process described in Appendix D [of the 2015 Final EIS], a fuels management strategy which considers an up-to-date fuels profile, land use plan direction, current and potential habitat fragmentation, sagebrush and Greater Sage-Grouse ecological factors, and active vegetation management steps to provide critical breaks in fuel continuity, where appropriate. When developing this strategy, planning units will consider the risk of increased habitat fragmentation from a proposed action versus the risk of large scale fragmentation posed by wildfires if the action is not taken.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-FM-11: Idaho – Common to All Habitats: —.</b>  <b>Utah Habitat: —.</b>	<b>F-FM-11: PHMA: —.</b>  <b>GHMA: —.</b>  <b>RHMA: —.</b>
<b>A-FM-12: —.</b>	<b>B-FM-12: PHMA: —.</b>  <b>GHMA: —.</b>	<b>C-FM-12: PHMA: —.</b>	<b>D-FM-12: PHMA:</b> Utilizing an interdisciplinary approach, a full range of fuel reduction techniques will be available. Fuel reduction techniques such as grazing, prescribed fire, chemical, biological and mechanical treatments are acceptable.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-FM-12: Idaho – Common to All Habitats: —.</b>  <b>Utah Habitat: —.</b>	<b>F-FM-12: PHMA: —.</b>  <b>GHMA: —.</b>  <b>RHMA: —.</b>

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
A-FM-13: —.	B-FM-13: PHMA: —.  GHMA: —.	C-FM-13: PHMA: —.	D-FM-13: PHMA: Prioritize the use of native seeds for fuels management treatment based on availability, adaptation (site potential), and probability of success. Where probability of success or native seed availability is low, nonnative seeds may be used to meet Greater Sage-Grouse habitat objectives to trend toward restoring the fire regime. When reseeding, use fire resistant native and nonnative species, as appropriate, to provide for fuel breaks.  IHMA: Same as PHMA.  GHMA: Same as PHMA.	E-FM-13: Idaho – Common to All Habitats: —.  Utah Habitat: —.	F-FM-13: PHMA: —.  GHMA: —.  RHMA: —.
A-FM-14: —.	B-FM-14: PHMA: —.  GHMA: —.	C-FM-14: PHMA: —.	D-FM-14: PHMA: Upon project completion, monitor and manage fuels projects to ensure long-term success, including persistence of seeded species and/or other treatment components. Control invasive vegetation post-treatment.  IHMA: Same as PHMA.  GHMA: Same as PHMA.	E-FM-14: Idaho – Common to All Habitats: —.  Utah Habitat: —.	F-FM-14: PHMA: —.  GHMA: —.  RHMA: —.
A-FM-15: —.	B-FM-15: PHMA: —.  GHMA: —.	C-FM-15: PHMA: —.	D-FM-15: PHMA: Apply seasonal restriction, as needed, for implementing fuels management treatments according to the type of seasonal habitat present.  IHMA: Same as PHMA.  GHMA: Same as PHMA.	E-FM-15: Idaho – Common to All Habitats: —.  Utah Habitat: —.	F-FM-15: PHMA: —.  GHMA: —.  RHMA: —.
Preparedness					
A-PRE-1: —.	B-PRE-1: PHMA: —.  GHMA: —.	C-PRE-1: PHMA: —.	D-PRE-1: PHMA: Implement a coordinated inter-agency approach to fire restrictions based upon National Fire Danger Rating System thresholds (fuel conditions, drought conditions and predicted weather patterns) for Greater Sage-Grouse habitat.  IHMA: Same as PHMA.  GHMA: Same as PHMA.	E-PRE-1: Idaho – Common to All Habitats: —.  Utah Habitat: —.	F-PRE-1: PHMA: —.  GHMA: —.  RHMA: —.



Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-PRE-2:</b> —.	<b>B-PRE-2: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-PRE-2: PHMA:</b> —.	<b>D-PRE-2: PHMA:</b> Develop wildfire prevention plans that explain the resource value of Greater Sage-Grouse habitat and include fire prevention messages and actions to reduce human-caused ignitions.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-PRE-2: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-PRE-2: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>Fire Management (Suppression)</b>					
<b>A-SUP-1:</b> Firefighter and public safety are the highest priority. Greater Sage-Grouse habitat will be prioritized commensurate with property values and other critical habitat to be protected, with the goal to restore, enhance, and maintain areas suitable for Greater Sage-Grouse.  Montana BLM: Emphasis on firefighter and public safety. Decisions based on relative values to be protected commensurate with fire management costs.	<b>B-SUP-1: PHMA:</b> Same as Alternative A.  <b>GHMA:</b> Same as PHMA.	<b>C-SUP-1: PHMA:</b> Same as Alternative A.	<b>D-SUP-1: PHMA:</b> Same as Alternative A.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-SUP-1: Idaho – Common to All Habitats:</b> Same as Alternative A.  <b>Montana Habitat:</b> Same as Alternative A.  <b>Utah Habitat:</b> Same as Alternative A.	<b>F-SUP-1: PHMA:</b> Same as Alternative A.  <b>GHMA:</b> Same as PHMA.  <b>RHMA:</b> Same as PHMA.
<b>A-SUP-2:</b> Montana BLM: Approximately 777,000 acres managed with considerations to wildlife habitat, air quality and threatened and endangered species.	<b>B-SUP-2: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-SUP-2: PHMA:</b> —.	<b>D-SUP-2: PHMA:</b> Within Greater Sage-Grouse, PHMAs (and PACs, if so determined by individual LUP efforts) are the highest priority for conservation and protection during fire operations and fuels management decision making. The PHMAs will be viewed as more valuable than GHMAs when priorities are established. When suppression resources are widely available, maximum efforts will be placed on limiting fire growth in GHMAs polygons as well. These priority areas will be further refined following completion of the Greater Sage-Grouse Landscape Wildfire and Invasive Species Habitat Assessments described in Appendix D [of the 2015 Final EIS].  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-SUP-2: Idaho – Common to All Habitats:</b> —.  <b>Montana Habitat:</b> Same as Alternative A.  <b>Utah Habitat:</b> —.	<b>F-SUP-2: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-SUP-3: —.</b>	<b>B-SUP-3: PHMA: —.</b>  <b>GHMA: —.</b>	<b>C-SUP-3: PHMA: —.</b>	<b>D-SUP-3: PHMA:</b> Within acceptable risk levels utilize a full range of fire management strategies and tactics, including the management of wildfires to achieve resource objectives, across the range of Greater Sage-Grouse habitat consistent with land use plan direction.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-SUP-3: Idaho – Common to All Habitats: —.</b>  <b>Utah Habitat: —.</b>	<b>F-SUP-3: PHMA: —.</b>  <b>GHMA: —.</b>  <b>RHMA: —.</b>
<b>A-SUP-4:</b> Prioritize fire suppression to protect firefighter and public safety. Each LUP supports the development and adherence to a more detailed fire management plan that outlines priorities and levels of suppression for particular vegetation classes or resource protection.  Montana BLM: Emphasis on firefighter and public safety. Decisions based on relative values to be protected commensurate with fire management costs.	<b>B-SUP-4: PHMA:</b> In PHMA, prioritize suppression, immediately after life and property, to conserve the habitat.  <b>GHMA:</b> In GHMA, prioritize suppression where wildfires threaten PHMA.	<b>C-SUP-4: PHMA:</b> Same as Alternative B.	<b>D-SUP-4: PHMA:</b> Prioritize firefighter and public safety, followed by suppression of fires in PHMA, with consideration given to threatened and endangered species habitat.  <b>IHMA:</b> Prioritize suppression of fires in IHMA and threatened and endangered species habitat after PHMA.  <b>GHMA:</b> Prioritize suppression of fires in GHMA and threatened and endangered species habitat after PHMA and IHMA.	<b>E-SUP-4: Idaho – CHZ:</b> Prioritize protection of Greater Sage-Grouse habitat after human safety and structure protection.  <b>Idaho – IHZ:</b> Prioritize protection of Greater Sage-Grouse habitat after human safety and structure protection and Greater Sage-Grouse habitat in CHZ.  <b>Idaho – GHZ:</b> Emphasize aggressive fire suppression techniques and efforts, recognizing that other local, regional, and national fire suppression priorities may take precedence.  <b>Montana Habitat:</b> Same as Alternative A.  <b>Utah Habitat:</b> Address fire by natural ignition as a serious threat.	<b>F-SUP-4: PHMA:</b> Same as Alternative B.  <b>GHMA: —.</b>  <b>RHMA: —.</b>
<b>A-SUP-5: —.</b>	<b>B-SUP-5: PHMA: —.</b>  <b>GHMA: —.</b>	<b>C-SUP-5: PHMA: —.</b>	<b>D-SUP-5: PHMA:</b> Ensure firefighter personnel receive orientation regarding Greater Sage-Grouse/sagebrush management issues as related to wildfire suppression.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-SUP-5: Idaho Common to All Habitats: —.</b>  <b>Utah Habitat: —.</b>	<b>F-SUP-5: PHMA: —.</b>  <b>GHMA: —.</b>  <b>RHMA: —.</b>
<b>A-SUP-6:</b> No similar action for sub-region.  Montana BLM: Approximately 777,000 acres managed with considerations to wildlife habitat, air quality, and threatened and endangered species.	<b>B-SUP-6: PHMA: —.</b>  <b>GHMA: —.</b>	<b>C-SUP-6: PHMA: —.</b>	<b>D-SUP-6: PHMA:</b> Suppress wildland fires in intact Greater Sage-Grouse habitats and use managed wildfire where needed to improve Greater Sage-Grouse habitat.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-SUP-6: Idaho – Common to All Habitats: —.</b>  <b>Montana Habitat:</b> Same as Alternative A.  <b>Utah Habitat: —.</b>	<b>F-SUP-6: PHMA: —.</b>  <b>GHMA: —.</b>  <b>RHMA: —.</b>

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
A-SUP-7: —.	B-SUP-7: PHMA: —.  GHMA: —.	C-SUP-7: PHMA: —.	D-SUP-7: PHMA: —.  IHMA: —.  GHMA: —.	E-SUP-7: Idaho – CHZ: Prioritize funding for fire suppression.  Idaho – IHZ: —.  Idaho – GHZ: —.  Utah Habitat: —.	F-SUP-7: PHMA: —.  GHMA: —.  RHMA: —.
A-SUP-8: During suppression, protect Greater Sage-Grouse habitats from fire through strategic wildfire suppression planning. Planning measures may include: <ul style="list-style-type: none"><li>• Conducting burnout/backfiring operations in a manner that minimizes the loss of sagebrush when possible</li><li>• The agency administrator or duty officer will prioritize the assignment of resources for suppression in the event of multiple wildfire starts in PHMA</li><li>• Retain all unburned sagebrush islands unless firefighter safety and the success of the suppression operations are compromised</li></ul>	B-SUP-8: PHMA: —.  GHMA: —.	C-SUP-8: PHMA: —.	D-SUP-8: PHMA: Same as Alternative A.  IHMA: Same as Alternative A.  GHMA: Same as Alternative A.	E-SUP-8: Idaho – CHZ: Develop a consistent wildfire suppression plan that improves on the current wildfire suppression baseline within 1 year of the ROD through: <ul style="list-style-type: none"><li>a. Ensuring close coordination with federal and state firefighters, local fire departments, and local expertise to create the best possible network of strategic fuel breaks and road access to minimize and reduce the size of a wildfire following ignition</li><li>b. Developing consistent fire response plans and mutual aid agreements</li><li>c. Requesting and placing additional firefighting resources and establish new incident attack centers, with particular emphasis in the West Owyhee CA;</li><li>d. Creating and maintaining effective fuel breaks in strategic locations that will modify fire behavior and increase fire suppression effectiveness according to the following criteria:<ul style="list-style-type: none"><li>• Targeting establishment of fuel breaks along existing roads or other disturbances</li><li>• Identifying and targeting higher-risk roads for fuel break construction and maintenance based on fire history maps</li><li>• Implementing a strategic approach to using these roads for rapid fire response</li><li>• Analyzing the benefits of the fuel break against the additional loss of sagebrush cover and risk on invasive weeds</li><li>• Maintaining fire breaks to meet objectives</li></ul></li><li>e. Requesting the necessary federal appropriations to achieve this objective</li></ul>	F-SUP-8: PHMA: —.  GHMA: —.  RHMA: —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
(see above)	(see above)	(see above)	(see above)	<p><b>Idaho – IHZ:</b> Develop a wildfire suppression plan that improves on the fire suppression baseline through:</p> <p>a. Ensuring close coordination with federal and state firefighters, local fire departments, and local expertise (e.g., livestock grazing permittees and road maintenance personnel) to create the best possible network of strategic fuel breaks and road access to minimize and reduce the size of a wildfire following ignition</p> <p>b. Developing consistent fire response plans and mutual aid agreements</p> <p>c. Requesting the necessary federal appropriations to achieve this objective.</p> <p><b>Idaho – GHZ:</b> —.</p> <p><b>Utah Habitat:</b> —.</p>	(see above)
Emergency Stabilization and Rehabilitation (ESR-BLM) and Burned Area Emergency Response (BAER-FS)					
<b>A-ESR-I:</b> —.	<b>B-ESR-I: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-ESR-I: PHMA:</b> —.	<b>D-ESR-I: PHMA:</b> Incorporate measurable groundcover and vegetation objectives (e.g., density and cover) into ESR/BAER plans. Qualitative objectives, such as plant vigor, seed production, and growing season conditions, should also be considered.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-ESR-I: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-ESR-I: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
A-ESR-2: —.	B-ESR-2: PHMA: —.  GHMA: —.	C-ESR-2: PHMA: —.	D-ESR-2: PHMA: Ensure that appropriate Greater Sage-Grouse seasonal habitat objectives are considered in ESR (BLM) and BAER (Forest Service) plans that contain PHMA, IHMA, or GHMA. The primary short-term objective is to establish or recover shrubs, grasses, and forbs appropriate for the ecological site. In seedings, native plant material is preferred but introduced species may also be required to compete with invasives, especially on harsher sites. The longer-term objective (i.e., 10 years-plus) is to achieve a robust perennial herbaceous understory with at least 10% sagebrush canopy cover that provides functional Greater Sage-Grouse habitat.  IHMA: Same as PHMA.  GHMA: Same as PHMA.	E-ESR-2: Idaho – Common to All Habitats: —.  Utah Habitat: —.	F-ESR-2: PHMA: —.  GHMA: —.  RHMA: —.
A-ESR-3: —.	B-ESR-3: PHMA: —.  GHMA: —.	C-ESR-3: PHMA: —.	D-ESR-3: PHMA: In the short term, ensure an appropriate rest period from livestock grazing to allow natural recovery of existing seedings or the establishment of new seedings that are within PHMA, IHMA, or GHMA.  IHMA: Same as PHMA.  GHMA: Same as PHMA.	E-ESR-3: Idaho – Common to All Habitats: —.  Utah Habitat: —.	F-ESR-3: PHMA: —.  GHMA: —.  RHMA: —.
A-ESR-4: —.	B-ESR-4: PHMA: —.  GHMA: —.	C-ESR-4: PHMA: —.	D-ESR-4: PHMA: Once seeded or naturally recovered areas within PHMA, IHMA, or GHMA can be reopened to livestock grazing, incorporate long-term management that will maintain the seeding investment, promote long-term plant community health, and promote the achievement of Greater Sage-Grouse habitat objectives.  IHMA: Same as PHMA.  GHMA: Same as PHMA.	E-ESR-4: Idaho – Common to All Habitats: —.  Utah Habitat: —.	F-ESR-4: PHMA: —.  GHMA: —.  RHMA: —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-ESR-5:</b> —.	<b>B-ESR-5: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-ESR-5: PHMA:</b> —.	<b>D-ESR-5: PHMA:</b> Consider adjusting livestock management on adjacent unburned areas to mitigate the effect of the burn on local Greater Sage-Grouse populations.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-ESR-5: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-ESR-5: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>Livestock Grazing</b>					
<b>A-LG/RM-I:</b> Continue to make Greater Sage-Grouse habitat available for livestock grazing (see Table 2-9). Active AUMs for livestock grazing would remain the same, though the number of AUMs on a permit may be adjusted during site-specific evaluations conducted during term permit renewals, AMP development, or other appropriate implementation activity. Additionally, temporary adjustments can be made annually to livestock numbers, the number of AUMs, season of use, and other aspects of grazing within the terms and conditions of the permit based on the permittees livestock operation and/or an evaluation of a variety of forage and resource site-specific conditions.  Montana BLM: Continue to manage under current guidance. Consider changes in grazing management on a case-by-case basis. 456,100 acres PPH available for livestock grazing and 212,200 acres PGH available for grazing	<b>B-LG/RM-I: PHMA:</b> Same as Alternative A (see Table 2-9).  <b>GHMA:</b> Same as PHMA.	<b>C-LG/RM-I: PHMA:</b> No grazing will be allowed in occupied Greater Sage-Grouse habitat (see <b>Table 2-9</b> ). Grazing will remain unchanged in areas outside of occupied Greater Sage-Grouse habitat.	<b>D-LG/RM-I: PHMA:</b> Same as Alternative A (see Table 2-9).  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-LG/RM-I: Idaho – Common to All Habitats:</b> Same as Alternative A (see Table 2-9).  <b>Montana Habitat:</b> Same as Alternative A.  <b>Utah Habitat:</b> Same as Alternative A (see Table 2-9).	<b>F-LG/RM-I: PHMA:</b> Grazing would be reduced by 25% (see Table 2-9).  Reductions by allotment will occur by Field Office based on a review of the site-specific information (e.g., range condition, utilization levels, type and condition of Greater Sage-Grouse habitat). Based on the Field Office review, the reductions in AUMs would occur in allotments that overlap occupied Greater Sage-Grouse habitat, whether partial reductions in active use or closing specific allotments. The reductions would be implemented during renewal of term grazing permits.  <b>GHMA:</b> Grazing would be reduced by 25% (see Table 2-9).  <b>RHMA:</b> Same as Alternative A.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-LG/RM-2:</b> —.	<b>B-LG/RM-2: PHMA:</b> Incorporate Greater Sage-Grouse habitat objectives and management considerations into all BLM and Forest Service grazing allotments through AMPs or permit renewals and/or Forest Service Annual Operating Instructions.  <b>GHMA:</b> —.	<b>C-LG/RM-2: PHMA:</b> —.	<b>D-LG/RM-2: PHMA:</b> Within grazing allotments containing Greater Sage-Grouse habitat, incorporate grazing management measures designed to meet Greater Sage-Grouse habitat objectives through AMPs, grazing permit renewal or permit modification processes.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-LG/RM-2: Idaho – CHZ:</b> Prioritize permit renewal and land health assessment processes for allotments with declining Greater Sage-Grouse populations in conjunction with scheduled term grazing permit renewals, or where the adaptive regulatory trigger has been tripped and livestock grazing has been identified as a potential causal factor.  <b>Idaho – IHZ:</b> Prioritize permit renewal and land health assessment processes for allotments with declining Greater Sage-Grouse populations.  <b>Idaho – GHZ:</b> —.  <b>Utah Habitat:</b> —.	<b>F-LG/RM-2: PHMA:</b> Same as Alternative B.  <b>GHMA:</b> Same as Alternative B.  <b>RHMA:</b> Same as Alternative B.
<b>A-LG/RM-3:</b> Consider adjustments to allotment boundaries that provide for single unit or landscape level grazing approaches to habitat improvement on a case-by-case basis.	<b>B-LG/RM-3: PHMA:</b> Work cooperatively on integrated ranch planning within Greater Sage-Grouse habitat so operations with deeded/BLM and/or Forest Service allotments can be planned as single units.  <b>GHMA:</b> —.	<b>C-LG/RM-3: PHMA:</b> —.	<b>D-LG/RM-3: PHMA:</b> Work cooperatively with other land managers to allow livestock operations that utilize mixed federal, private and/or state land to be managed at the landscape scale to benefit Greater Sage-Grouse and their habitat.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-LG/RM-3: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-LG/RM-3: PHMA:</b> Same as Alternative B.  <b>GHMA:</b> —.  <b>RHMA:</b> —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<p><b>A-LG/RM-4:</b> Complete rangeland health assessments for each allotment at least once every ten years for consideration during the permit renewal process.</p> <p>Monitor vegetation trends (including composition, cover, and age class), noxious weeds, riparian Proper Functioning Condition (PFC), etc. as part of the grazing management program.</p> <p>BLM plans do not contain grazing management decisions specific to conserving Greater Sage-Grouse habitat.</p> <p>Forest Service LUPs contain specific management actions for permitted livestock grazing that take in to consideration established habitat management objectives.</p>	<p><b>B-LG/RM-4: PHMA:</b> Prioritize completion of land health assessments (Forest Service may use other analyses) and processing grazing permits within PHMA. Focus this process on allotments that have the best opportunities for conserving, enhancing or restoring habitat for Greater Sage-Grouse. Utilize BLM Ecological Site Descriptions (Forest Service may use other methods) to conduct land health assessments to determine if standards of range-land health are being met.</p> <p><b>GHMA:</b> —.</p>	<p><b>C-LG/RM-4: PHMA:</b> —.</p>	<p><b>D-LG/RM-4: PHMA:</b> PHMA is the highest priority for BLM land health assessments and processing of BLM grazing permits with consideration for threatened and endangered species. Where possible, conduct land health assessments at the watershed, or other meaningful landscape-scale.</p> <p><b>IHMA:</b> Prioritize BLM land health assessments and processing of BLM grazing permits after PHMA with consideration for threatened and endangered species. Where possible, conduct land health assessments at the watershed, or other meaningful landscape-scale.</p> <p><b>GHMA:</b> Prioritize BLM land health assessments and processing of BLM grazing permits after IHMA, with consideration for threatened and endangered species. Where possible, conduct land health assessments at the watershed, or other meaningful landscape-scale.</p>	<p><b>E-LG/RM-4: Idaho – Common to All Habitats:</b> Complete the allotment assessment process in conjunction with scheduled term grazing permit renewals (i.e., every ten years), giving priority to areas that have the potential to provide the greatest benefit to Greater Sage-Grouse.</p> <p><b>Idaho – CHZ:</b> Prioritize and concentrate allocation of resources for assessment and permit renewal on allotments within CHZ that have declining Greater Sage-Grouse populations, with secondary priority given to stable or increasing populations within CHZ.</p> <p><b>Idaho – IHZ:</b> Prioritize allotments within IHZ containing breeding habitats that have decreasing lek counts after permits within CHZ. Greater Sage-Grouse populations that are stable or trending upward will be a lower priority for permit renewal and the assessment process.</p> <p><b>Idaho – GHZ:</b> —.</p> <p><b>Utah Habitat:</b> —.</p>	<p><b>F-LG/RM-4: PHMA:</b> Same as Alternative B.</p> <p><b>GHMA:</b> —.</p> <p><b>RHMA:</b> —.</p>



Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-LG/RM-5: —.</b>	<b>B-LG/RM-5: PHMA:</b> Conduct land health assessments that include (at a minimum) indicators and measurements of structure/condition/composition of vegetation specific to achieving Greater Sage-Grouse habitat objectives (Doherty et al. 2011a). If local/state seasonal habitat objectives are not available, use Greater Sage-Grouse habitat recommendations from Connelly et al. 2000 and Hagen et al. 2007.  <b>GHMA: —.</b>	<b>C-LG/RM-5: PHMA: —.</b>	<b>D-LG/RM-5: PHMA:</b> During the land health assessment process determine whether vegetation structure, condition and composition are meeting Greater Sage-Grouse habitat objectives in sagebrush cover types through implementation of the habitat assessment framework, (Stiver et al. 2010 as amended/replaced) or other BLM or Forest Service approved methodology, in accordance with current policy and guidance.  <b>IHMA:</b> Same as PHMA.  <b>GHMA: —.</b>	<b>E-LG/RM-5: Idaho – Common to All Habitats:</b> Utilize a variety of information sources, when available, in the allotment assessment process, including: published characteristics of Greater Sage-Grouse habitat; Ecological Site Descriptions; existing vegetation; habitat inventories/assessments (Stiver et al. 2010); and state and transition models that describe vegetation and other physical attributes for Greater Sage-Grouse. Include discussion of whether the allotment (or any pasture/significant area therein) has the existing vegetation and/or existing ecological condition (seral state) to provide Greater Sage-Grouse habitat (Category 1); or whether the allotment (or any pasture/significant area therein) has the ecological potential to provide Greater Sage-Grouse habitat (Category 2). When either of these categories applies, incorporate Greater Sage-Grouse habitat management objectives as the desired conditions for the applicable allotment and pasture.  <b>Utah Habitat: —.</b>	<b>F-LG/RM-5: PHMA:</b> Same as Alternative B.  <b>GHMA: —.</b>  <b>RHMA: —.</b>

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<p><b>A-LG/RM-6:</b> Consider range improvements and/or adjust permit terms and conditions on a case-by-case basis as necessary to meet land health standards or habitat objectives identified in individual LUPs. Changes may include, but are not limited to:</p> <p>1) Rotation systems (e.g., rest rotation, deferred rotation) 2) Season or timing of use 3) Distribution of livestock use 5) Type of livestock 6) Class of livestock 7) Duration of grazing use and rest periods</p>	<p><b>B-LG/RM-6: PHMA:</b> Implement management actions (grazing decisions, Annual Operating Instructions [Forest Service only], AMP/Conservation Plan development, or other agreements) to modify grazing management to meet seasonal Greater Sage-Grouse habitat requirements (Connelly et al. 2011). Consider singly, or in combination, changes in:</p> <p>1) Season or timing of use; 2) Numbers of livestock (includes temporary non-use or livestock removal); 3) Distribution of livestock use; 4) Intensity of use; and 5) Type of livestock (e.g., cattle, sheep, horses, llamas, alpacas and goats) (Briske et al. 2011).</p> <p><b>GHMA:</b> —.</p>	<p><b>C-LG/RM-6: PHMA:</b> —.</p>	<p><b>D-LG/RM-6: PHMA:</b> When livestock management practices determined to not be compatible with meeting or making progress towards habitat objectives, implement changes in grazing management through grazing authorization modifications, or AMP implementation. Potential considerations include, but are not limited to, changes in:</p> <p>1) Season or timing of use; 2) Numbers of livestock; 3) Distribution of livestock use; 4) Duration and/or level of use; 5) Kind of livestock (e.g., cattle, sheep, horses, or goats) (Briske et al. 2011); 6) Voluntary measures such as temporary non-use; and 7) Grazing schedules (including rest or deferment).</p> <p><b>IHMA:</b> Same as PHMA.</p> <p><b>GHMA:</b> Same as PHMA.</p>	<p><b>E-LG/RM-6: Idaho – CHZ:</b> Adjust grazing permits during the renewal process to include measures (including but not limited to measures described in Appendix Q [of the 2015 Final EIS]) to achieve desired habitat conditions, if through the assessment process, livestock grazing is found to be limiting the achievement of the habitat characteristics (Appendix Q [of the 2015 Final EIS]). Measures must be tailored to address the specific management issues.</p> <p>Where population and habitat triggers are being maintained within a CA, this provides that the current grazing system is adequate to maintain viable Greater Sage-Grouse populations and therefore absent compelling information, no further changes to BLM grazing systems would be required pursuant to Standard 8 of the Idaho Rangeland Health Standards with respect to Greater Sage-Grouse.</p> <p><b>Idaho – IHZ:</b> Same as Idaho - CHZ.</p> <p><b>Idaho – GHZ:</b> —.</p> <p><b>Utah Habitat:</b> —.</p> <p><b>E-LG/RM-7: Idaho – Common to All Habitats:</b> —.</p> <p><b>Utah Habitat:</b> —.</p>	<p><b>F-LG/RM-6: PHMA:</b> Same as Alternative B.</p> <p><b>GHMA:</b> —.</p> <p><b>RHMA:</b> —.</p>
<p><b>A-LG/RM-7:</b> —.</p>	<p><b>B-LG/RM-7: PHMA:</b> Maintain retirement of grazing privileges as an option in PHMA when the current permittee is willing to retire grazing on all or part of an allotment. Analyze the adverse impacts of no livestock use on wildfire and invasive species threats (Crawford et al. 2004) in evaluating retirement proposals.</p> <p><b>GHMA:</b> —.</p>	<p><b>C-LG/RM-7: PHMA:</b> —.</p>	<p><b>D-LG/RM-7: PHMA:</b> Consider retiring an allotment if grazing privileges are relinquished or if an allotment becomes vacant. When grazing privileges are relinquished the associated allotment(s) may be retired from grazing, or converted to a forage reserve/buffer to use during fire rehabilitation or restoration efforts elsewhere (Adopted from Idaho State Plan page 4.64, Appendix Q [of the 2015 Final EIS]), when such actions are determined to result in a net benefit to Greater Sage-Grouse habitat and other priority resources.</p> <p><b>IHMA:</b> Same as PHMA.</p> <p><b>GHMA:</b> Same as PHMA.</p>		<p><b>F-LG/RM-7: PHMA:</b> Same as Alternative B.</p> <p><b>GHMA:</b> —.</p> <p><b>RHMA:</b> —.</p>

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-LG/RM-8:</b> —.	<b>B-LG/RM-8: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-LG/RM-8: PHMA:</b> —.	<b>D-LG/RM-8: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-LG/RM-8: Idaho – CHZ:</b> Establish strategically located forage reserves focusing on areas unsuitable for Greater Sage-Grouse habitat restoration or lower priority habitat restoration areas when feasible.  <b>Idaho – IHZ:</b> Same as Idaho – CHZ.  <b>Idaho – GHZ:</b> —.  <b>Utah Habitat:</b> —.	<b>F-LG/RM-8: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-LG/RM-9:</b> —.	<b>B-LG/RM-9: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-LG/RM-9: PHMA:</b> —.	<b>D-LG/RM-9: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-LG/RM-9: Idaho – CHZ:</b> Implement grazing management systems that ensure adequate nesting and early brood rearing habitat within the breeding landscape. Manage allotments only for the primary seasonal habitat that it has the potential to support. BLM will conduct fine and site scale habitat assessments based on these habitat characteristics.  <b>Idaho – IHZ:</b> Same as Idaho - CHZ.  <b>Idaho – GHZ:</b> —.  <b>Utah Habitat:</b> —.	<b>F-LG/RM-9: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-LG/RM-10:</b> Consider changes in grazing management on a case-by-case basis. Changes may include, but are not limited to:  1) Rotation systems (e.g., rest rotation and deferred rotation) 2) Season or timing of use 3) Distribution of livestock use 5) Type of livestock 6) Class of livestock 7) Duration of grazing use and rest periods.	<b>B-LG/RM-10: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-LG/RM-10: PHMA:</b> —.	<b>D-LG/RM-10: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-LG/RM-10: Idaho – CHZ:</b> Modify grazing management through appropriate herding, salting, and water-source management (e.g., turning troughs/pipelines on/off, extending pipelines/moving troughs) when use-pattern mapping or monitoring demonstrates an opportunity to adjust livestock distribution to benefit occupied Greater Sage-Grouse breeding habitat.  <b>Idaho – IHZ:</b> Same as Idaho - CHZ.  <b>Idaho – GHZ:</b> —.  <b>Utah Habitat:</b> —.	<b>F-LG/RM-10: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-LG/RM-11: —.</b>	<b>B-LG/RM-11: PHMA: —.</b>  <b>GHMA: —.</b>	<b>C-LG/RM-11: PHMA: —.</b>	<b>D-LG/RM-11: PHMA:</b> Coordinate with the permittee to schedule grazing use to avoid the Greater Sage-Grouse breeding and nesting period when practical.  If a lek is located at a water trough, turn off the trough during the breeding and nesting period to minimize potential impacts on Greater Sage-Grouse when possible.  <b>IHMA: —.</b>  <b>GHMA: —.</b>	<b>E-LG/RM-11: Idaho – CHZ:</b> Graze exotic perennial grass seedings and/or annual grasslands to avoid grazing during breeding season in occupied Greater Sage-Grouse habitat if available and feasible.  <b>Idaho – IHZ:</b> Same as Idaho - CHZ.  <b>Idaho – GHZ: —.</b>  <b>Utah Habitat: —.</b>	<b>F-LG/RM-11: PHMA: —.</b>  <b>GHMA: —.</b>  <b>RHMA: —.</b>
<b>A-LG/RM-12:</b> Consider changes in grazing management on a case-by-case basis. Changes may include, but are not limited to:  1) Rotation systems (e.g., rest rotation and deferred rotation) 2) Season or timing of use 3) Distribution of livestock use 5) Type of livestock 6) Class of livestock 7) Duration of grazing use and rest periods	<b>B-LG/RM-12: PHMA: —.</b>  <b>GHMA: —.</b>	<b>C-LG/RM-12: PHMA: —.</b>	<b>D-LG/RM-12: PHMA: —.</b>  <b>IHMA: —.</b>  <b>GHMA: —.</b>	<b>E-LG/RM-12: Idaho – CHZ:</b> Modify authorized seasons of use within grazing permits to provide greater flexibility in managing livestock for the benefit of Greater Sage-Grouse.  <b>Idaho – IHZ:</b> Same as Idaho - CHZ.  <b>Idaho – GHZ: —.</b>  <b>Utah Habitat: —.</b>	<b>F-LG/RM-12: PHMA: —.</b>  <b>GHMA: —.</b>  <b>RHMA: —.</b>
<b>A-LG/RM-13: —.</b>	<b>B-LG/RM-13: PHMA: —.</b>  <b>GHMA: —.</b>	<b>C-LG/RM-13: PHMA: —.</b>	<b>D-LG/RM-13: PHMA: —.</b>  <b>IHMA: —.</b>  <b>GHMA: —.</b>	<b>E-LG/RM-13: Idaho – CHZ:</b> Maintain residual herbaceous vegetation at the end of the growing/grazing season to contribute to nesting and brood-rearing habitat during the coming nesting season consistent with conditions described in Appendix Q [of the 2015 Final EIS]).  <b>Idaho – IHZ:</b> Same as Idaho - CHZ.  <b>Idaho – GHZ: —.</b>  <b>Utah Habitat: —.</b>	<b>F-LG/RM-13: PHMA: —.</b>  <b>GHMA: —.</b>  <b>RHMA: —.</b>

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<p><b>A-LG/RM-14:</b> Consider changes in grazing management on a case-by-case basis. Changes may include, but are not limited to:</p> <p>1) Rotation systems (e.g., rest rotation and deferred rotation) 2) Season or timing of use 3) Distribution of livestock use 5) Type of livestock 6) Class of livestock 7) Duration of grazing use and rest periods</p>	<p><b>B-LG/RM-14: PHMA:</b> —.</p> <p><b>GHMA:</b> —.</p>	<p><b>C-LG/RM-14: PHMA:</b> —.</p>	<p><b>D-LG/RM-14: PHMA:</b> —.</p> <p><b>IHMA:</b> —.</p> <p><b>GHMA:</b> —.</p>	<p><b>E-LG/RM-14: Idaho – CHZ:</b> Modify grazing management to meet seasonal Greater Sage-Grouse habitat requirements (Appendix Q [of the 2015 Final EIS]). Provide flexibility in grazing management through scheduling the intensity, timing, duration and frequency of grazing use over time that best promotes management objectives. The Implementation Task Force would provide recommendations throughout the process and would be given the ability to review proposed management changes and the implementation of conservation measures to ensure that the measures are being appropriately applied.</p> <p><b>Idaho – IHZ:</b> Same as Idaho – CHZ.</p> <p><b>Idaho – GHZ:</b> —.</p> <p><b>Utah Habitat:</b> —.</p>	<p><b>F-LG/RM-14: PHMA:</b> —.</p> <p><b>GHMA:</b> —.</p> <p><b>RHMA:</b> —.</p>

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-LG/RM-15: —.</b>	<b>B-LG/RM-15: PHMA:</b> Develop specific objectives to conserve, enhance or restore PHMA based on BLM Ecological Site Descriptions (Forest Service may use other methods) and assessments (including within wetlands and riparian areas). If an effective grazing system that meets Greater Sage-Grouse habitat requirements is not already in place, analyze at least one alternative that conserves, restores or enhances Greater Sage-Grouse habitat in the NEPA document prepared for the permit renewal (Doherty et al. 2011b, Williams et al. 2011).  <b>GHMA: —.</b>	<b>C-LG/RM-15: PHMA: —.</b>	<b>D-LG/RM-15: PHMA:</b> Use monitoring information and rangeland health assessments to develop specific management objectives and grazing management plans designed to maintain, enhance or restore Greater Sage-Grouse habitat. Prioritize implementation of grazing systems or permit modifications that make progress towards meeting habitat objectives, in areas that are not meeting these objectives.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-LG/RM-15: Idaho – CHZ:</b> Conduct rangeland health assessments utilizing published characteristics of Greater Sage-Grouse habitat and the Ecological Site Descriptions, and Appendix Q [of the 2015 Final EIS], and where available and applicable, rangeland health determinations made in accordance with 43 C.F.R. 4180.2(c).  <b>Idaho – IHZ:</b> Same as Idaho – CHZ.  <b>Idaho – GHZ: —.</b>  <b>Utah Habitat:</b> Consider Greater Sage-Grouse seasonal habitat requirements when managing sagebrush rangelands. Considerations to be taken into account include the following: Leks Be cautious of man-made structures on lek sites. Reduce shrub encroachment and maintain the “open” area that characterizes a typical lek site. Identify the location of leks through discussions with DWR biologists.  Nesting/Early Brood-Rearing Maintain and enhance the existing sagebrush/plant communities. Manage these areas to increase herbaceous cover by sustaining a mosaic of sagebrush and open areas. Avoid repeated, annual heavy use of these areas by implementing periodic rest and/or deferment periods during the critical growing season.  Late Brood-Rearing Avoid continuous (season-long) grazing of wet meadows and riparian habitats, especially under drought conditions when temperatures are high.  Winter Carefully manage levels of browsing or activities in sagebrush areas that constitute Greater Sage-Grouse habitat that would reduce Greater Sage-Grouse access to these areas for food and cover. The potential impact of livestock grazing on winter habitat can be positive or negative depending on scale and location of use.	<b>F-LG/RM-15: PHMA: —.</b>  <b>GHMA: —.</b>  <b>RHMA: —.</b>

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-LG/RM-16: —.</b>	<b>B-LG/RM-16: PHMA:</b> In PHMA, manage for vegetation composition and structure consistent with ecological site potential and within the reference state to achieve Greater Sage-Grouse seasonal habitat objectives.  <b>GHMA: —.</b>	<b>C-LG/RM-16: PHMA: —.</b>	<b>D-LG/RM-16: PHMA:</b> Manage for vegetation composition (including riparian and lentic areas) and structure consistent with appropriate Greater Sage-Grouse seasonal habitat objectives relative to site potential.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-LG/RM-16: Idaho – CHZ:</b> Maintain existing grazing management absent substantial and compelling information, if, based on the assessment, the current grazing system achieves the habitat characteristics (Appendix Q [of the 2015 Final EIS]).  <b>Idaho – IHZ:</b> Same as Idaho – CHZ.  <b>Idaho – GHZ: —.</b>  <b>Utah Habitat:</b> Address incompatible grazing strategies through established rangeland management practices consistent with the maintenance or enhancement of habitat. Carefully manage the “time,” “timing,” and “intensity” of grazing in sagebrush/Greater Sage-Grouse habitats to provide for the seasonal needs of Greater Sage-Grouse. Specific prescriptions can be applied through more intensive management to address special needs or weak links in the biological year of Greater Sage-Grouse production. Where time-controlled grazing is not an option, moderate use of occupied Greater Sage-Grouse habitats will usually leave mosaic or patchy areas where some plants are ungrazed. Managing for moderate utilization levels (40%) after the period of rapid vegetation growth may provide enough residual cover for Greater Sage-Grouse nesting and early brood-rearing the subsequent spring. Evaluation of Greater Sage-Grouse nesting and escape cover must be determined on a site-specific basis. Livestock operations with a small amount of nesting habitat should consider special management activities to protect nesting and early brood-rearing areas. Lighter use of areas may be warranted. In areas with large tracts of contiguous habitat, livestock producers should manage the vegetation on a rotational grazing basis, which may leave 10 - 20 % of the area ungrazed periodically in combination with deferring or altering timing of grazing in other areas. In areas where Greater Sage-Grouse nesting is common, managing for moderate use of plant	<b>F-LG/RM-16: PHMA:</b> Manage for vegetation composition and structure consistent with ecological site potential and within the reference state to achieve Greater Sage-Grouse habitat objectives.  <b>GHMA: —.</b>  <b>RHMA: —.</b>

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
(see above)	(see above)	(see above)	(see above)	growth across the landscape would be appropriate. Well-managed ranches with comprehensive grazing strategies that include short-term or duration grazing, higher levels of use may be acceptable, provided these higher levels of use include rested vegetation in nearby areas.	(see above)
A-LG/RM-17: —.	B-LG/RM-17: PHMA: —.  GHMA: —.	C-LG/RM-17: PHMA: —.	D-LG/RM-17: PHMA: Outside of occupied or potential bighorn sheep habitat, allow temporary or permanent conversion of cattle AUMs to sheep and/or goat grazing to allow for fuels management opportunities using domestic livestock. Sheep and goat grazing areas must be reviewed and modified as bighorn sheep habitat maps are updated or refined.  IHMA: Same as PHMA.  GHMA: Same as PHMA.	E-LG/RM-17: Idaho – Common to All Habitats: —.  Utah Habitat: —.	F-LG/RM-17: PHMA: —.  GHMA: —.  RHMA: —.
A-LG/RM-18: —.	B-LG/RM-18: PHMA: —.  GHMA: —.	C-LG/RM-18: PHMA: —.	D-LG/RM-18: PHMA: Incorporate Terms and Conditions in crossing permits to limit disturbance of leks when trailing livestock across BLM- and Forest Service-administered lands in the spring. Appropriate Terms and Conditions include, but are not limited to: required herding practices, permitted routes, timing of livestock movements during lekking season, watering, overnighting, and sheep bedding locations.  IHMA: Same as PHMA.  GHMA: Same as PHMA.	E-LG/RM-18: Idaho – Common to All Habitats: —.  Utah Habitat: —.	F-LG/RM-18: PHMA: No action.  GHMA: —.  RHMA: —.



Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-LG/RM-19: —.</b>	<b>B-LG/RM-19: PHMA: —.</b>  <b>GHMA: —.</b>	<b>C-LG/RM-19: PHMA: —.</b>	<b>D-LG/RM-19: PHMA: —.</b>  <b>IHMA: —.</b>  <b>GHMA: —.</b>	<b>E-LG/RM-19: Idaho – Common to All Habitats:</b> Consider additional options for scheduled grazing based on the three habitat zones in light of unintended consequences of altering grazing use, such as a possible increased risk of wildfire, before adjusting management.  <b>Idaho – CHZ:</b> Altering grazing schemes in allotments within CHZ, where needed and appropriate, through enhanced grazing opportunities utilizing introduced seedings or areas with lower value to Greater Sage-Grouse (e.g., GHZ).  <b>Idaho – IHZ:</b> Enhance grazing opportunities through utilization of areas with introduced seedings or areas with lower value to Greater Sage-Grouse.  <b>Idaho – GHZ:</b> Same as Idaho – IHZ.  <b>Utah Habitat: —.</b>	<b>F-LG/RM-19: PHMA: —.</b>  <b>GHMA: —.</b>  <b>RHMA: —.</b>
<b>A-LG/RM-20: —.</b>	<b>B-LG/RM-20: PHMA: —.</b>  <b>GHMA: —.</b>	<b>C-LG/RM-20: PHMA: —.</b>	<b>D-LG/RM-20: PHMA: —.</b>  <b>IHMA: —.</b>  <b>GHMA: —.</b>	<b>E-LG/RM-20: Idaho – Common to All Habitats:</b> Include measures tailored to address specific management issues (Appendix Q [of the 2015 Final EIS]), when livestock grazing is limiting achievement of the habitat characteristics (Appendix Q [of the 2015 Final EIS]), within renewed permits.  <b>Utah Habitat: —.</b>	<b>F-LG/RM-20: PHMA: —.</b>  <b>GHMA: —.</b>  <b>RHMA: —.</b>
<b>A-LG/RM-21:</b> Consider changes in grazing management on a case-by-case basis. Changes may include, but are not limited to:  1) Rotation systems (e.g., rest rotation and deferred rotation) 2) Season or timing of use 3) Distribution of livestock use 5) Type of livestock 6) Class of livestock 7) Duration of grazing use and rest periods.	<b>B-LG/RM-21: PHMA: —.</b>  <b>GHMA: —.</b>	<b>C-LG/RM-21: PHMA: —.</b>	<b>D-LG/RM-21: PHMA: —.</b>  <b>IHMA: —.</b>  <b>GHMA: —.</b>	<b>E-LG/RM-21: Idaho – Common to All Habitats:</b> Maintain flexibility in grazing management and the opportunity to schedule and adjust intensity, timing, duration, and frequency of grazing use over time in a manner that maintains rangeland health and habitat quality.  <b>Utah Habitat: —.</b>	<b>F-LG/RM-21: PHMA: —.</b>  <b>GHMA: —.</b>  <b>RHMA: —.</b>

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-LG/RM-22:</b> —.	<b>B-LG/RM-22: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-LG/RM-22: PHMA:</b> —.	<b>D-LG/RM-22: PHMA:</b> Utilize existing and appropriate rangeland health assessment and Greater Sage-Grouse habitat assessment (currently the Habitat Assessment Framework) processes to quantify Greater Sage-Grouse habitat quality. Prioritize assessment completion in PHMA.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-LG/RM-22: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-LG/RM-22: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-LG/RM-23:</b> —.	<b>B-LG/RM-23: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-LG/RM-23: PHMA:</b> —.	<b>D-LG/RM-23: PHMA:</b> Monitor vegetation utilizing techniques that quantify Greater Sage-Grouse habitat attributes to determine if vegetation management objectives are being achieved. This monitoring would occur consistent with appropriate BLM and Forest Service direction which current utilizes the Habitat Assessment Framework and BLM Technical Reference 1734-4.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-LG/RM-23: Idaho – Common to All Habitats:</b> Conduct fine and site scale-habitat assessments to help inform grazing management based on habitat characteristics described in Appendix Q [of the 2015 Final EIS].  <b>Utah Habitat:</b> —.	<b>F-LG/RM-23: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-LG/RM-24:</b> Implement noxious weed and invasive species control using integrated weed management actions per national guidance and local weed management plans in cooperation with State and Federal agencies, affected counties, and adjoining private lands owners.	<b>B-LG/RM-24: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-LG/RM-24: PHMA:</b> —.	<b>D-LG/RM-24: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-LG/RM-24: Idaho – CHZ:</b> —.  <b>Idaho – IHZ:</b> Monitor weed eradication program to evaluate the success of weed control efforts in conjunction with the Cooperative Weed Management Areas.  <b>Idaho – GHZ:</b> Same as Idaho – IHZ.  <b>Utah Habitat:</b> —.	<b>F-LG/RM-24: PHMA:</b> No action.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-LG/RM-25:</b> —.	<b>B-LG/RM-25: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-LG/RM-25: PHMA:</b> —.	<b>D-LG/RM-25: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-LG/RM-25: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-LG/RM-25: PHMA:</b> Encourage partners to monitor effects of retiring grazing permits in Greater Sage-Grouse habitat.  <b>GHMA:</b> —.  <b>RHMA:</b> —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-LG/RM-26:</b> —.	<b>B-LG/RM-26: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-LG/RM-26: PHMA:</b> —.	<b>D-LG/RM-26: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-LG/RM-26: Idaho – Common to All Habitats:</b> Conduct a determination of factors causing any failure to achieve the habitat characteristics (Appendix Q [of the 2015 Final EIS]) at a resolution sufficient to document the habitat condition, including consideration of local spatial and inter-annual variability. Determination must utilize data from multiple years or multiple locations within an allotment.  <b>Utah Habitat:</b> —.	<b>F-LG/RM-26: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>Drought Management</b>					
<b>A-LG/RM-27:</b> —. Livestock grazing program/policy direction allows the BLM and Forest Service to make changes to livestock grazing in response to drought conditions. Changes may include adjusting livestock numbers based on available forage or shortening the season of use.	<b>B-LG/RM-27: PHMA:</b> During drought periods, prioritize evaluating effects of the drought in PHMA relative to their needs for food and cover. Since there is a lag in vegetation recovery following drought (Thurow and Taylor 1999; Cagney et al. 2010), ensure that post-drought management allows for vegetation recovery that meets Greater Sage-Grouse needs in PHMA.  <b>GHMA:</b> —.	<b>C-LG/RM-27: PHMA:</b> —.	<b>D-LG/RM-27: PHMA:</b> Adjust grazing management (i.e., delay turnout, adjust pasture rotations, adjust the amount and/or duration of grazing) as appropriate during drought to provide for adequate food and cover for Greater Sage-Grouse during drought periods.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-LG/RM-27: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-LG/RM-27: PHMA:</b> During drought periods, prioritize evaluating effects of the drought in PHMA relative to their biological needs for food and cover, as well as drought effects on ungrazed reference areas. Since there is a lag in vegetation recovery following drought (Thurow and Taylor 1999; Cagney et al. 2010), ensure that post-drought management allows for vegetation recovery that meets Greater Sage-Grouse needs in PHMA based on Greater Sage-Grouse habitat objectives.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-LG/RM-28:</b> —.	<b>B-LG/RM-28: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-LG/RM-28: PHMA:</b> —.	<b>D-LG/RM-28: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-LG/RM-28: Idaho – CHZ:</b> Prioritize evaluation of CHZ during drought periods relative to Greater Sage-Grouse needs for food and cover. Ensure that post-drought management allows for vegetation recovery that meets Greater Sage-Grouse needs in priority Greater Sage-Grouse habitat areas.  <b>Idaho – IHZ:</b> Same as Idaho – CHZ.  <b>Idaho – GHZ:</b>  <b>Utah Habitat:</b> —.	<b>F-LG/RM-28: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Riparian					
<b>A-LG/RM-29:</b> Manage, maintain, protect, and restore riparian and wetland areas to PFC.	<b>B-LG/RM-29: PHMA:</b> Manage riparian areas and wet meadows for proper functioning condition or other similar methodology (Forest Service only) within PHMA.  <b>GHMA:</b> —.	<b>C-LG/RM-29: PHMA:</b> —.	<b>D-LG/RM-29: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-LG/RM-29: Idaho – CHZ:</b> Implement grazing management adjustments, where management changes are determined necessary (Appendix Q [of the 2015 Final EIS]), that are narrowly tailored to address the specific habitat objective applied at the allotment and/or activity plan level, including but not limited to the actions outlined in (Appendix Q [of the 2015 Final EIS]).  <b>Idaho – IHZ:</b> Same as Idaho – CHZ.  <b>Idaho – GHZ:</b> —.  <b>Utah Habitat:</b> Design water developments to enhance mesic habitat for use by Greater Sage-Grouse and maintain adequate vegetation in wet meadows. Within PHMA, Greater Sage-Grouse stipulations should take precedence over stipulations for other species if conflicts occur, if otherwise allowable by law.	<b>F-LG/RM-29: PHMA:</b> Same as Alternative B.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-LG/RM-30:</b> Manage, maintain, protect, and restore riparian and wetland areas to PFC.	<b>B-LG/RM-30: PHMA:</b> Within Greater Sage-Grouse habitats, manage wet meadows to maintain a component of perennial forbs with diverse species richness relative to site potential (e.g., reference state) to facilitate brood rearing. Also conserve or enhance these wet meadow complexes to maintain or increase amount of edge and cover within that edge to minimize elevated mortality during the late brood rearing period (Hagen et al. 2007; Kolada et al. 2009; Atamian et al. 2010).  <b>GHMA:</b> Same as PHMA.	<b>C-LG/RM-30: PHMA:</b> —.	<b>D-LG/RM-30: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-LG/RM-30: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> Design water developments to enhance mesic habitat for use by Greater Sage-Grouse and maintain adequate vegetation in wet meadows. Within PHMA, Greater Sage-Grouse stipulations should take precedence over stipulations for other species if conflicts occur, if otherwise allowable by law.	<b>F-LG/RM-30: PHMA:</b> Same as Alternative B.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-LG/RM-31:</b> —.	<b>B-LG/RM-31: PHMA:</b> Where riparian areas and wet meadows meet proper functioning condition or meet standards using other similar methodology (Forest Service only), strive to attain reference state vegetation relative to the ecological site description.  <b>GHMA:</b> Same as PHMA.	<b>C-LG/RM-31: PHMA:</b> —.	<b>D-LG/RM-31: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-LG/RM-31: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> Same as E-LG/RM-30.	<b>F-LG/RM-31: PHMA:</b> Same as Alternative B.  <b>GHMA:</b> —.  <b>RHMA:</b> —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-LG/RM-32:</b> Manage rangeland resources to maintain healthy, sustainable, rangeland ecosystems and to restore degraded rangelands in accordance with Idaho’s Standards for Rangeland Health or standards or guidelines established in individual Forest Service LRMPs. Rangeland health standards require that riparian areas be managed for PFC.	<b>B-LG/RM-32: PHMA:</b> Reduce hot season grazing on riparian and meadow complexes to promote recovery or maintenance of appropriate vegetation and water quality. Utilize fencing/herding techniques or seasonal use or livestock distribution changes to reduce pressure on riparian or wet meadow vegetation used by Greater Sage-Grouse in the hot season (summer) (Aldridge and Brigham 2002; Crawford et al. 2004; Hagen et al. 2007).  <b>GHMA:</b> —.	<b>C-LG/RM-32: PHMA:</b> —.	<b>D-LG/RM-32: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-LG/RM-32: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> Continue livestock grazing strategies that have proven effective in maintaining and enhancing Greater Sage-Grouse habitat, unless compelling and credible cause-and-effect evidence indicates a disturbance exists. Address incompatible grazing strategies through established rangeland management practices consistent with the maintenance or enhancement of habitat. Design water developments to enhance mesic habitat for use by Greater Sage-Grouse and maintain adequate vegetation in wet meadows. Within PHMA, Greater Sage-Grouse stipulations should take precedence over stipulations for other species if conflicts occur, if otherwise allowable by law.	<b>F-LG/RM-32: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-LG/RM-33:</b> Manage, maintain, protect, and restore riparian and wetland areas to PFC.	<b>B-LG/RM-33: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-LG/RM-33: PHMA:</b> —.	<b>D-LG/RM-33: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-LG/RM-33: Idaho – CHZ:</b> Manage grazing of riparian areas, meadows, springs, and seeps in a manner that promotes vegetative structure and composition appropriate to the site.  <b>Idaho – IHZ:</b> Same as Idaho – CHZ.  <b>Idaho – GHZ:</b> —.  <b>Utah Habitat:</b> —.	<b>F-LG/RM-33: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Range Improvements					
<b>A-LG/RM-34:</b> Consider structural range improvements on a case-by-case basis to provide for livestock grazing while maintaining rangeland health.	<b>B-LG/RM-34: PHMA:</b> Design any new structural range improvements and location of supplements (salt or protein blocks) to conserve, enhance, or restore Greater Sage-Grouse habitat through an improved grazing management system relative to Greater Sage-Grouse objectives. Structural range improvements, in this context, include but are not limited to: cattle guards, fences, exclosures, corrals or other livestock handling structures; pipelines, troughs, storage tanks (including moveable tanks used in livestock water hauling), windmills, ponds/reservoirs, solar panels and spring developments. Potential for invasive species establishment or increase following construction must be considered in the project planning process and monitored and treated post-construction.  <b>GHMA:</b> —.	<b>C-LG/RM-34: PHMA:</b> —.	<b>D-LG/RM-34: PHMA:</b> Design any new structural range improvements to conserve, enhance, or restore Greater Sage-Grouse habitat. Structural range improvements, in this context, include but are not limited to: cattle guards, fences, exclosures, corrals or other livestock handling structures; pipelines, troughs, storage tanks (including moveable tanks used in livestock water hauling), windmills, ponds/reservoirs, solar panels and spring developments. Potential for an increase in invasive species establishment or increase following construction must be considered in the project planning process and monitored and treated post-construction.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-LG/RM-34: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> Locate livestock fences away from leks and employ the NRCS fence standards (NRCS 2012).	<b>F-LG/RM-34: PHMA:</b> Avoid all new structural range developments in PHMA unless independent peer-reviewed studies show that the range improvement structure benefits Greater Sage-Grouse. Design any new structural range improvements and location of supplements (salt or protein blocks) to conserve, enhance, or restore Greater Sage-Grouse habitat through an improved grazing management system relative to Greater Sage-Grouse objectives. Structural range improvements developments, in this context, include but are not limited to cattle guards, fences, exclosures, corrals or other livestock handling structures; pipelines, troughs, storage tanks (including moveable tanks used in livestock water hauling), windmills, ponds/reservoirs, solar panels and spring developments. Potential for invasive species establishment or increase following construction must be considered in the project planning process and monitored and treated post-construction. Consider the comparative cost of changing grazing management instead of constructing additional range developments.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-LG/RM-35:</b> Consider modifications to existing structural range improvements on a case-by-case basis taking into consideration impacts on other resources.	<b>B-LG/RM-35: PHMA:</b> Evaluate existing structural range improvements and location of supplements (salt or protein blocks) to make sure they conserve, enhance or restore Greater Sage-Grouse habitat.  <b>GHMA:</b> —.	<b>C-LG/RM-35: PHMA:</b> —.	<b>D-LG/RM-35: PHMA:</b> During project inspections, evaluate the design and location of existing structural range improvements with respect to their effect on Greater Sage-Grouse habitat, including, but not limited to: <ul style="list-style-type: none"><li>• Potential for Greater Sage-Grouse collisions with infrastructure.</li><li>• Avian predation due to creation of roosting, perching or nesting sites.</li><li>• Introduction of weeds, West Nile Virus and effects on vegetation structure or composition.</li><li>• Assess existing livestock management fences within PHMA for risk of Greater Sage-Grouse collisions based on proximity to leks,</li></ul>	<b>E-LG/RM-35: Idaho – CHZ:</b> Place salt or mineral supplements to improve management of livestock in existing disturbed sites (areas with reduced sagebrush cover—e.g., seedings or cheatgrass sites) to reduce impacts on Greater Sage-Grouse breeding habitat.  <b>Idaho – IHZ:</b> Same as Idaho – CHZ.  <b>Idaho – GHZ:</b> —.  <b>Utah Habitat:</b> —.	<b>F-LG/RM-35: PHMA:</b> Same as Alternative B.  <b>GHMA:</b> —.  <b>RHMA:</b> —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
(see above)	(see above)	(see above)	<p>lek size, and topography (Christiansen 2009; Stevens 2011) or existing collision risk models (Stevens et al. 2012).</p> <ul style="list-style-type: none"><li>• Prioritize fence removal, modification or marking in areas of high collision risk to reduce the incidence of Greater Sage-Grouse mortality due to fence strikes (Stevens et al. 2012).</li><li>• Avoid building new permanent fences within 2 km of occupied leks or high density fence areas (Stevens 2011). If this is not feasible, ensure that high risk segments are marked with collision diverter devices or as latest science indicates.</li><li>• Utilize temporary fencing (e.g., ESR, drop down fencing) where applicable and appropriate to meet management objectives.</li></ul> <p>Evaluate the locations where salt/supplements are placed. In coordination with the permittee, have salt/supplements moved to areas which would conserve or improve habitat for Greater Sage-Grouse.</p> <p><b>IHMA:</b> Same as PHMA.</p> <p><b>GHMA:</b> During project inspections, evaluate the design and location of existing structural range improvements and location of supplements (salt or protein blocks) with respect to their effect on Greater Sage-Grouse habitat, including, but not limited to:</p> <ul style="list-style-type: none"><li>• Potential for Greater Sage-Grouse collisions.</li><li>• Avian predation due to creation of roosting, perching or nesting sites.</li><li>• Introduction of weeds, West Nile Virus and effects on vegetation structure or composition.</li><li>• Avoid building new fences within 2 km of occupied leks or winter concentration areas. If this is not feasible, ensure that high risk segments are marked with collision diverter devices or as latest science indicates.</li></ul>	(see above)	(see above)

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-LG/RM-36: —.</b>	<b>B-LG/RM-36: PHMA:</b> To reduce outright Greater Sage-Grouse strikes and mortality, remove, modify or mark fences in high risk areas within PHMA based on proximity to lek, lek size, and topography (Christiansen 2009, Stevens 2011).  <b>GHMA: —.</b>	<b>C-LG/RM-36: PHMA: —.</b>	<b>D-LG/RM-36: PHMA:</b> Design and locate fences to minimize the potential for Greater Sage-Grouse strikes.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-LG/RM-36: Idaho – CHZ:</b> Mark fences on flat to gently rolling terrain in areas of moderate to high fence densities (i.e., more than one kilometer of fence per square kilometer) located within two kilometers of occupied leks with permanent flagging or other suitable device to reduce Greater Sage-Grouse collisions.  <b>Idaho – IHZ:</b> Same as CHZ.  <b>Idaho – GHZ: —.</b>  <b>Utah Habitat:</b> Fences should not be located on or adjacent to leks where bird collisions would be expected to occur. Employ NRCS fence collision risk tool (NRCS 2012).	<b>F-LG/RM-36: PHMA:</b> To reduce outright Greater Sage-Grouse strikes and mortality, remove, modify or mark fences in high risk areas of moderate or high risk of Greater Sage-Grouse strikes within PHMA based on proximity to lek, lek size, and topography (Christiansen 2009; Stevens 2011).  <b>GHMA: —.</b>  <b>RHMA: —.</b>
<b>A-LG/RM-37: —.</b>	<b>B-LG/RM-37: PHMA: —.</b>  <b>GHMA: —.</b>	<b>C-LG/RM-37: PHMA: —.</b>	<b>D-LG/RM-37: PHMA: —.</b>  <b>IHMA: —.</b>  <b>GHMA: —.</b>	<b>E-LG/RM-37: Idaho – CHZ:</b> Avoid constructing new fences within 2 km of occupied leks. Place new, taller structures, such as corrals, loading facilities, water-storage tanks, windmills, etc., at least 2 km from occupied leks to reduce opportunities for perching raptors based on careful consideration of local conditions near other important seasonal habitats (winter-use areas, movement corridors etc.) to reduce potential impacts.  <b>Idaho – IHZ:</b> Same as CHZ.  <b>Idaho – GHZ: —.</b>  <b>Utah Habitat: —.</b>	<b>F-LG/RM-37: PHMA: —.</b>  <b>GHMA: —.</b>  <b>RHMA: —.</b>
<b>A-LG/RM-38: —.</b>	<b>B-LG/RM-38: PHMA: —.</b>  <b>GHMA: —.</b>	<b>C-LG/RM-38: PHMA: —.</b>	<b>D-LG/RM-38: PHMA: —.</b>  <b>IHMA: —.</b>  <b>GHMA: —.</b>	<b>E-LG/RM-38: Idaho – CHZ:</b> Reduce the impacts of fences and livestock management facilities on Greater Sage-Grouse, to the extent practicable.  <b>Idaho – IHZ:</b> Same as CHZ.  <b>Idaho – GHZ: —.</b>  <b>Utah Habitat: —.</b>	<b>F-LG/RM-38: PHMA: —.</b>  <b>GHMA: —.</b>  <b>RHMA: —.</b>



Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
A-LG/RM-39: —.	B-LG/RM-39: PHMA: —.  GHMA: —.	C-LG/RM-39: PHMA: —.	D-LG/RM-39: PHMA: —.  IHMA: —.  GHMA: —.	E-LG/RM-39: Idaho – CHZ: Remove unnecessary fences.  Idaho – IHZ: Same as CHZ.  Idaho – GHZ: Same as CHZ.  Utah Habitat: —.	F-LG/RM-39: PHMA: —.  GHMA: —.  RHMA: —.
A-LG/RM-40: —.	B-LG/RM-40: PHMA: —.  GHMA: —.	C-LG/RM-40: PHMA: —.	D-LG/RM-40: PHMA: —.  IHMA: —.  GHMA: —.	E-LG/RM-40: Idaho – CHZ: Consider impacts on Greater Sage-Grouse when placing new fences and livestock management facilities, including corrals, loading facilities, water tanks and windmills.  Idaho – IHZ: Same as CHZ.  Idaho – GHZ: —.  Utah Habitat: —.	F-LG/RM-40: PHMA: —.  GHMA: —.  RHMA: —.
A-LG/RM-41: —.	B-LG/RM-41: PHMA: —.  GHMA: —.	C-LG/RM-41: PHMA: —.	D-LG/RM-41: PHMA: —.  IHMA: —.  GHMA: —.	E-LG/RM-41: Idaho – CHZ: Construct new fences further than one kilometer (0.6 miles) from occupied leks.  Idaho – IHZ: Same as CHZ.  Idaho – GHZ: —.  Utah Habitat: —.	F-LG/RM-41: PHMA: —.  GHMA: —.  RHMA: —.
A-LG/RM-42: —.	B-LG/RM-42: PHMA: —.  GHMA: —.	C-LG/RM-42: PHMA: —.	D-LG/RM-42: PHMA: —.  IHMA: —.  GHMA: —.	E-LG/RM-42: Idaho – CHZ: Place new, taller structures, including corrals, loading facilities, water storage tanks, windmills, at least one kilometer from occupied leks, to the extent practicable.  Idaho – IHZ: Same as CHZ.  Idaho – GHZ: —.  Utah Habitat: —.	F-LG/RM-42: PHMA: —.  GHMA: —.  RHMA: —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Water Development					
<b>A-LG/RM-43:</b> Consider authorization of new water developments on a case-by-case basis taking into consideration impacts on other resources and resource values.	<b>B-LG/RM-43: PHMA:</b> Authorize new water development for diversion from spring or seep source only when PHMA would benefit from the development. This includes developing new water sources for livestock as part of an AMP/conservation plan to improve Greater Sage-Grouse habitat.  <b>GHMA:</b> Same as PHMA.	<b>C-LG/RM-43: PHMA:</b> —.	<b>D-LG/RM-43: PHMA:</b> Limit authorization of new water developments to projects that would benefit, maintain, or have a neutral effect on PHMA (such as by shifting livestock use away from critical areas). New developments that divert surface water must be designed to maintain integrity and functionality riparian or wetland vegetation and hydrology. New developments should also be sited in lower quality habitats or, disturbed areas where possible, and avoid areas that have not had significant prior grazing use (Adopted from Idaho State Plan page 4.64, Appendix Q [of the 2015 Final EIS]). Ensure that troughs are fitted with wildlife escape ramps to facilitate use of and escape by animals, including Greater Sage-Grouse.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> New water developments that divert surface water must be designed to maintain integrity and functionality of riparian or wetland vegetation and hydrology. New developments should also be sited in lower quality habitats or disturbed areas where possible (Adopted from Idaho State Plan page 4.64, Appendix Q [of the 2015 Final EIS]). Ensure that troughs are fitted with wildlife escape ramps to facilitate use of and escape by animals, including Greater Sage-Grouse.	<b>E-LG/RM-43: Idaho – CHZ:</b> Place and design new water developments in Greater Sage-Grouse breeding habitat that provide the greatest enhancement for Greater Sage-Grouse and Greater Sage-Grouse habitat.  <b>Idaho – IHZ:</b> Same as CHZ.  <b>Idaho – GHZ:</b> —.  <b>Utah Habitat:</b> Design water developments to enhance mesic habitat for use by Greater Sage-Grouse and maintain adequate vegetation in wet meadows. Within PHMA, Greater Sage-Grouse stipulations should take precedence over stipulations for other species if conflicts occur, if otherwise allowable by law.	<b>F-LG/RM-43: PHMA:</b> Authorize no new water developments for diversion from spring or seep sources only when within PHMA would benefit from the development. This includes developing new water sources for livestock as part of an AMP/conservation plan to improve Greater Sage-Grouse habitat.  <b>GHMA:</b> —.  <b>RHMA:</b> —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-LG/RM-44:</b> Consider modifications to existing water developments on a case-by-case basis taking into consideration impacts on other resources.	<b>B-LG/RM-44: PHMA:</b> Analyze springs, seeps and associated pipelines to determine if modifications are necessary to maintain the continuity of the predevelopment riparian area within PHMA. Make modifications where necessary, considering impacts on other water uses when such considerations are neutral or beneficial to Greater Sage-Grouse.  <b>GHMA:</b> —.	<b>C-LG/RM-44: PHMA:</b> —.	<b>D-LG/RM-44: PHMA:</b> During project inspections, evaluate the design and condition of existing water developments (headboxes, exclosures, pipelines, ponds, and troughs) at springs, wetlands, or playas to determine if modification, repair or retrofitting or removal is needed to maintain or restore the integrity and functionality of the riparian/lentic areas to current site potential within priority Greater Sage-Grouse habitat. Modifications may include, but are not limited to: <ul style="list-style-type: none"><li>• Installing float valves on troughs</li><li>• Reconfiguring exclosure fencing</li><li>• Moving troughs out of riparian/lentic areas</li><li>• Modifying the slope at the edge of ponds to reduce mosquito breeding habitat and West Nile virus.</li></ul> Ensure that troughs are fitted with functional wildlife escape ramps to facilitate use of and escape by animals, including Greater Sage-Grouse.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-LG/RM-44: Idaho – Common to All Habitat:</b> —.  <b>Utah Habitat:</b> —.	<b>F-LG/RM-44: PHMA:</b> Analyze springs, seeps and associated water developments pipelines to determine if modifications are necessary to maintain the continuity of the predevelopment riparian area within PHMA. Make modifications where necessary, including dismantling water developments considering impacts on other water uses when such considerations are neutral or beneficial to Greater Sage-Grouse.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-LG/RM-45:</b> Manage, maintain, protect, and restore riparian and wetland areas to PFC.	<b>B-LG/RM-45: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-LG/RM-45: PHMA:</b> —.	<b>D-LG/RM-45: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-LG/RM-45: Idaho – CHZ:</b> Design new spring developments in Greater Sage-Grouse habitat to maintain or enhance the free-flowing characteristics of springs and wet meadows. Modify developed springs, seeps and associated pipelines to maintain the continuity of the predevelopment riparian area within priority Greater Sage-Grouse habitat where necessary.  <b>Idaho – IHZ:</b> Same as CHZ.  <b>Idaho – GHZ:</b> —.  <b>Utah Habitat:</b> —.	<b>F-LG/RM-45: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
A-LG/RM-46: —.	B-LG/RM-46: PHMA: —.  GHMA: —.	C-LG/RM-46: PHMA: —.	D-LG/RM-46: PHMA: —.  IHMA: —.  GHMA: —.	E-LG/RM-46: Idaho – CHZ: Install ramps in new and existing livestock troughs and open water storage tanks to facilitate the use of and escape from troughs by Greater Sage-Grouse and other wildlife.  Idaho – IHZ: Same as Idaho - CHZ.  Idaho – GHZ: —.  Utah Habitat: —.	F-LG/RM-46: PHMA: —.  GHMA: —.  RHMA: —.
A-LG/RM-47: —.	B-LG/RM-47: PHMA: —.  GHMA: —.	C-LG/RM-47: PHMA: —.	D-LG/RM-47: PHMA: —.  IHMA: —.  GHMA: —.	E-LG/RM-47: Idaho – CHZ: Avoid installation of new water developments in higher quality native breeding/early brood habitats that have not had significant prior grazing use except in situations in which water developments may aid in better livestock distribution across the allotment and will not adversely impact the species.  Idaho – IHZ: Same as CHZ.  Idaho – GHZ: —.  Utah Habitat: —.	F-LG/RM-47: PHMA: —.  GHMA: —.  RHMA: —.
West Nile Virus					
A-LG/RM-48: —.	B-LG/RM-48: PHMA: When developing or modifying water developments in PHMA, use applicable best management practices (BMPs, see Appendix B [of the 2015 Final EIS]) to mitigate potential impacts from West Nile virus (Clark et al. 2006; Doherty 2007; Walker et al. 2007; Walker and Naugle 2011).  GHMA: —.	C-LG/RM-48: PHMA: —.	D-LG/RM-48: PHMA: When developing or modifying water developments in PHMA, use BMPs (Appendix B [of the 2015 Final EIS]) to mitigate potential impacts from West Nile virus (Clark et al. 2006, Doherty 2007, Walker et al. 2007, Walker and Naugle 2011).  IHMA: Same as PHMA.  GHMA: Same as PHMA.	E-LG/RM-48: Idaho – Common to All Habitat: —.  Utah Habitat: —.	F-LG/RM-48: PHMA: Same as Alternative B.  GHMA: —.  RHMA: —.
A-LG/RM-49: —.	B-LG/RM-49: PHMA: —.  GHMA: —.	C-LG/RM-49: PHMA: —.	D-LG/RM-49: PHMA: —.  IHMA: —.  GHMA: —.	E-LG/RM-49: Idaho – CHZ: Return water to the original water source, to the extent practicable, to reduce suitable habitat for mosquitoes.  Idaho – IHZ: Same as CHZ.  Idaho – GHZ: —.  Utah Habitat: —.	F-LG/RM-49: PHMA: No action.  GHMA: —.  RHMA: —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
A-LG/RM-50: —.	B-LG/RM-50: PHMA: —.  GHMA: —.	C-LG/RM-50: PHMA: —.	D-LG/RM-50: PHMA: —.  IHMA: —.  GHMA: —.	E-LG/RM-50: Idaho – CHZ: Minimize creation of breeding habitat for mosquitoes in Greater Sage-Grouse habitat to reduce the risk of transmission of West Nile virus to Greater Sage-Grouse.  Idaho – IHZ: Same as CHZ.  Idaho – GHZ: Same as CHZ.  Utah Habitat: —.	F-LG/RM-50: PHMA: —.  GHMA: —.  RHMA: —.
A-LG/RM-51: —.	B-LG/RM-51: PHMA: —.  GHMA: —.	C-LG/RM-51: PHMA: —.	D-LG/RM-51: PHMA: —.  IHMA: —.  GHMA: —.	E-LG/RM-51: Idaho – CHZ: Permit and design new ponds or reservoirs to reduce the potential impacts of West Nile Virus transmission.  Idaho – IHZ: Same as CHZ.  Idaho – GHZ: Same as CHZ.  Utah Habitat: —.	F-LG/RM-51: PHMA: —.  GHMA: —.  RHMA: —.
A-LG/RM-52: —.	B-LG/RM-52: PHMA: —.  GHMA: —.	C-LG/RM-52: PHMA: —.	D-LG/RM-52: PHMA: —.  IHMA: —.  GHMA: —.	E-LG/RM-52: Idaho – CHZ: Minimize the construction of new ponds or reservoirs except as needed to meet important resource management and/or restoration objectives.  Idaho – IHZ: Same as CHZ.  Idaho – GHZ: —.  Utah Habitat: —.	F-LG/RM-52: PHMA: —.  GHMA: —.  RHMA: —.
A-LG/RM-53: —.	B-LG/RM-53: PHMA: —.  GHMA: —.	C-LG/RM-53: PHMA: —.	D-LG/RM-53: PHMA: —.  IHMA: —.  GHMA: —.	E-LG/RM-53: Idaho – CHZ: Develop and maintain non-pond/reservoir watering facilities, such as troughs and bottomless tanks, to provide high quality water that minimizes the development of habitat for mosquitoes.  Idaho – IHZ: Same as CHZ.  Idaho – GHZ: Same as CHZ.  Utah Habitat: —.	F-LG/RM-53: PHMA: —.  GHMA: —.  RHMA: —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-LG/RM-54:</b> —.	<b>B-LG/RM-54: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-LG/RM-54: PHMA:</b> —.	<b>D-LG/RM-54: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-LG/RM-54: Idaho – CHZ:</b> Construct water return features and maintain functioning float valves to prohibit water from being spilled on the ground surrounding the trough and/or tank.  <b>Idaho – IHZ:</b> Same as CHZ.  <b>Idaho – GHZ:</b> —.  <b>Utah Habitat:</b> —.	<b>F-LG/RM-54: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>Recreation and Visitor Services</b>					
<b>A-RC-1:</b> Consider BLM SRPs and Forest Service Recreation SUAs on a case-by-case basis. Consider measures that will minimize impacts on important resources or resource values.  Montana BLM: Authorize SRPs in accordance with SRPH 2930-I. No acres are excluded from SRPs (Pg. 54 ROD/RMP).	<b>B-RC-1: PHMA:</b> Only allow BLM SRPs and Forest Service Recreation SUAs in PHMA that have neutral or beneficial effects on PHMA.  <b>GHMA:</b> —.	<b>C-RC-1: PHMA:</b> Same as Alternative A.	<b>D-RC-1: PHMA:</b> SRPs and Forest Service Recreation SUAs would be analyzed on a case-by-case basis per BLM Special Recreation Permit Manual 2930, FSH 2709.II and through the NEPA process to minimize impacts on Greater Sage-Grouse and/or habitat by directing use away from sensitive seasons and/or areas. Coordinate issuance of recreation permits with IDFG and Idaho Outfitter and Guide licensing board when relevant and appropriate.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-RC-1: Idaho – Common to All Habitats:</b> —.  <b>Montana Habitat:</b> Same as Alternative A.  <b>Utah Habitat:</b> Limit or ameliorate impacts from recreation activities through the use of the general stipulations identified in the Greater Sage-Grouse section.	<b>F-RC-1: PHMA:</b> Same as Alternative B.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-RC-2:</b> —.	<b>B-RC-2: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-RC-2: PHMA:</b> Action: Same as Alternative A.	<b>D-RC-2: PHMA:</b> Designate or design developed recreation sites and associated facilities to direct use away from sensitive areas and provide sustainable recreational opportunities.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-RC-2: Idaho – Common to All Habitat:</b> —.  <b>Utah Habitat:</b> —.	<b>F-RC-2: PHMA:</b> Seasonally prohibit camping and other non-motorized recreation within 4 miles of active Greater Sage-Grouse leks.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-RC-3:</b> —.	<b>B-RC-3: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-RC-3: PHMA:</b> —.	<b>D-RC-3: PHMA:</b> Incorporate seasonal restrictions for authorized activities to minimize impacts on Greater Sage-Grouse and/or their habitat.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-RC-3: Idaho – Common to All Habitat:</b> —.  <b>Utah Habitat:</b> —.	<b>F-RC-3: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-RC-4:</b> —.	<b>B-RC-4: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-RC-4: PHMA:</b> —.	<b>D-RC-4: PHMA:</b> Recreation activities and developed recreation sites and facilities within lands not designated as a recreation management area would be managed and designed to minimize adverse effects on Greater Sage-Grouse by directing use away from sensitive areas.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-RC-4: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-RC-4: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>Travel Management</b>					
<b>A-TM-1:</b> OHV use will be managed as open, closed, or limited to existing roads, primitive roads, and trails as identified in Table 2-9.  Montana BLM: All OHV travel is restricted to designated routes. There are 920 miles of designated routes in PPH and 400 miles in PGH. No off-road travel allowed by the public.  Forest Service-administered lands: Travel planning is complete and all National Forest System lands with a designated route system are considered the same as the limited designation on BLM-administered lands.	<b>B-TM-1: PHMA:</b> Limit OHV travel to existing roads, primitive roads, and trails at a minimum, until such time as travel management planning is complete and routes are either designated or closed (see Table 2-9).  Same as Alternative A for National Forest System lands.  <b>GHMA:</b> Same as Alternative A.	<b>C-TM-1: PHMA:</b> Same as Alternative B (see Table 2-9).  Same as Alternative A for National Forest System lands.	<b>D-TM-1: PHMA:</b> Limit OHV travel to existing roads, primitive roads, and trails at a minimum until such time as travel management planning is complete and routes are either designated or closed. Existing designated OHV open “play” areas would remain open (see Table 2-9).  Same as Alternative A for National Forest System lands.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-TM-1: Idaho – Common to All Habitats:</b> Same as Alternative B (see Table 2-9).  Same as Alternative A for National Forest System lands.  <b>Montana Habitat:</b> Same as Alternative A.  <b>Utah Habitat:</b> PHMA with nesting and winter habitat that do not have designated routes in a Travel Management Plan would be managed at least as limited to existing roads and trails (i.e., could maintain existing OHV closures) until a Travel Management Plan designates routes. PHMA with nesting and winter habitat that have undergone Travel Management Planning with route designation would be managed at least as limited to designated routes (i.e., could maintain existing OHV closures). In these areas, existing route designations would be reviewed and adjusted where impacts on Greater Sage-Grouse from route presence or use may exist.	<b>F-TM-1: PHMA:</b> Same as Alternative B (see Table 2-9).  Same as Alternative A for National Forest System lands.  <b>GHMA:</b> Same as PHMA.  <b>RHMA:</b> Same as Alternative A.
<b>A-TM-2:</b> All LUPs include management actions that encourage the administrating agency to follow best management practices that reduce or minimize the impacts of development, including use of existing roads where possible.	<b>B-TM-2: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-TM-2: PHMA:</b> Same as Alternative B.	<b>D-TM-2: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-TM-2: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-TM-2: PHMA:</b> During travel management planning, prohibit new road construction within 4 miles of active Greater Sage-Grouse leks, and avoid new road construction in PHMA.  <b>GHMA:</b> —.  <b>RHMA:</b> —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-TM-3:</b> —. Under current policy, the need for permanent or seasonal road closures is evaluated during travel management planning.	<b>B-TM-3: PHMA:</b> Travel management should evaluate the need for permanent or seasonal road closures.  <b>GHMA:</b> —.	<b>C-TM-3: PHMA:</b> Same as Alternative B.	<b>D-TM-3: PHMA:</b> Travel management planning would evaluate the need for permanent or seasonal road closures as per Travel Management Handbook 8342.1.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-TM-3: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-TM-3: PHMA:</b> Same as Alternative B.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-TM-4:</b> Consider route and trail modifications (new or existing) on a case-by-case basis.  Identify travel management areas and prioritize travel management planning in areas where it would provide the most resource benefit.	<b>B-TM-4: PHMA:</b> Complete activity level travel plans within five years of the ROD. During activity level planning, where appropriate, designate routes in PHMA with current administrative/agency purpose or need to administrative access only.  <b>GHMA:</b> —.	<b>C-TM-4: PHMA:</b> Same as Alternative B.	<b>D-TM-4: PHMA:</b> Prioritize areas for complete transportation management plans as per Travel Management Handbook 8342.1.  <b>IHMA:</b> Complete Transportation management plans as per Travel Management Handbook 8342.1.  <b>GHMA:</b> Same as PHMA.	<b>E-TM-4: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> Counties should adopt and enforce travel management plans that include consideration for greater Greater Sage-Grouse.	<b>F-TM-4: PHMA:</b> Same as Alternative B.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-TM-5:</b> Consider route and trail modifications (new or existing) on a case-by-case basis using the designation criteria.	<b>B-TM-5: PHMA:</b> Limit route construction to realignments of existing designated routes if that realignment has a minimal impact on Greater Sage-Grouse habitat, eliminates the need to construct a new road, or is necessary for motorist safety.  <b>GHMA:</b> —.	<b>C-TM-5: PHMA:</b> Same as Alternative B.	<b>D-TM-5: PHMA:</b> Consider Greater Sage-Grouse objectives during subsequent travel management planning. Design and designate a travel system to minimize adverse effects on Greater Sage-Grouse (i.e., designate or design routes to direct use away from sensitive areas and still provide for high-quality and sustainable travel routes and administrative access, legislatively mandated requirements, and commercial needs). Allow for route upgrade, closure of existing routes, and creation of new routes to help protect habitat and meet user group needs, thereby reducing the potential for pioneering unauthorized routes. The emphasis of the comprehensive travel and transportation planning within PHMA would be placed on having a neutral or positive effect on Greater Sage-Grouse habitat.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-TM-5: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-TM-5: PHMA:</b> Limit route construction to realignments of existing designated routes if that realignment has a minimal impact on Greater Sage-Grouse habitat, eliminates the need to construct a new road, or is necessary for motorist safety. Mitigate any impacts with methods that have been demonstrated to be effective to offset the loss of Greater Sage-Grouse habitat.  <b>GHMA:</b> —.  <b>RHMA:</b> —.



Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-TM-6:</b> All LUPs include management actions that encourage the administrating agency to follow best management practices that reduce or minimize the impacts of development, including use of existing roads where possible.	<b>B-TM-6: PHMA:</b> Use existing roads or realignments as described above to access valid existing rights that are not yet developed. If valid existing rights cannot be accessed via existing roads, then build any new road constructed to the absolute minimum standard necessary, and add the surface disturbance to the total disturbance in PHMA. If that disturbance exceeds 3 % for that area, then evaluate and implement additional, effective mitigation necessary to offset the resulting loss of Greater Sage-Grouse habitat (see Objectives, Table 2-10).  <b>GHMA:</b> —.	<b>C-TM-6: PHMA:</b> Same as Alternative B.	<b>D-TM-6: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-TM-6: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-TM-6: PHMA:</b> Same as Alternative B using a 4-mile buffer from leks to determine road route.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-TM-7:</b> —. The need for restoration of linear disturbances (unauthorized routes) is identified during the implementation level travel management process or on a case-by-case basis.	<b>B-TM-7: PHMA:</b> Conduct restoration of roads, primitive roads and trails not designated in travel management plans. This also includes primitive route/roads that were not designated in Wilderness Study Areas and within lands with wilderness characteristics that have been selected for protection in previous LUPs.  <b>GHMA:</b> —.	<b>C-TM-7: PHMA:</b> Same as Alternative B.	<b>D-TM-7: PHMA:</b> During subsequent travel management planning, prioritize restoration of linear disturbances (those routes not designated in a Travel Management Plan) in PHMA.  <b>IHMA:</b> During subsequent travel management planning, prioritize restoration of linear disturbances (those routes not designated in a Travel Management Plan) after PHMA.  <b>GHMA:</b> During subsequent travel management planning, prioritize restoration of linear disturbances (those routes not designated in a Travel Management Plan) after IHMA.	<b>E-TM-7: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-TM-7: PHMA:</b> Same as Alternative B.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-TM-8:</b> —.	<b>B-TM-8: PHMA:</b> When reseeding roads, primitive roads and trails in PHMA, use appropriate seed mixes and consider the use of transplanted sagebrush.  <b>GHMA:</b> —.	<b>C-TM-8: PHMA:</b> Same as Alternative B.	<b>D-TM-8: PHMA:</b> During subsequent travel management planning, consider using seed mixes or transplant techniques that will maintain or enhance Greater Sage-Grouse habitat when rehabilitating linear disturbances.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-TM-8: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-TM-8: PHMA:</b> When reseeding closed roads, primitive roads and trails, use appropriate native seed mixes and require consider the use of transplanted sagebrush.  <b>GHMA:</b> —.  <b>RHMA:</b> —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-TM-9:</b> —.	<b>B-TM-9: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-TM-9: PHMA:</b> —.	<b>D-TM-9: PHMA:</b> During subsequent travel management planning, schedule road maintenance to avoid disturbance during sensitive periods and times to the extent practicable. Use time of day limits (After 10:00 AM to 7:00 PM) to reduce impacts on Greater Sage-Grouse during breeding and nesting.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-TM-9: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-TM-9: PHMA:</b> No action.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-TM-10:</b> —.	<b>B-TM-10: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-TM-10: PHMA:</b> —.	<b>D-TM-10: PHMA:</b> During subsequent travel management planning, limit snow machine travel to existing routes in Greater Sage-Grouse wintering areas from November 1 through March 31. Assess routes during subsequent travel management planning.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-TM-10: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-TM-10: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-TM-11:</b> —.	<b>B-TM-11: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-TM-11: PHMA:</b> —.	<b>D-TM-11: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-TM-11: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> Develop an educational process to advise OHV users of the potential for conflict with Greater Sage-Grouse.	<b>F-TM-11: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
Lands and Realty					
Wind and Solar Energy					
<b>A-LR-1:</b> ROW grants are issued for wind and solar energy development on a case-by-case basis.	<b>B-LR-1: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-LR-1: PHMA:</b> —.	<b>D-LR-1: PHMA:</b> Solar and wind energy development is not allowed.  <b>IHMA:</b> Wind and solar energy development would be restricted where adverse effects could not be mitigated. Ancillary facilities such as roads, electric lines, etc. could potentially be authorized provided there is no net loss of Greater Sage-Grouse habitat through mitigation.  <b>GHMA:</b> Lands shall be considered avoidance areas for wind and solar development.	<b>E-LR-1: Idaho – Common to All Habitats:</b> See Action E-LR-3.  <b>Utah Habitat:</b> —.	<b>F-LR-1: PHMA:</b> Do not site wind energy development in PHMA (Jones 2012).  <b>GHMA:</b> —.  <b>RHMA:</b> —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-LR-2:</b> —.	<b>B-LR-2: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-LR-2: PHMA:</b> —.	<b>D-LR-2: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-LR-2: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-LR-2: PHMA:</b> Site wind energy development at least five miles from active Greater Sage-Grouse leks.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>Rights-of-way</b>					
<b>A-LR-3:</b> Continue to manage existing ROW avoidance and exclusion areas (see Table 2-9).  Montana BLM: Manage designated ROW avoidance areas on 123,300 acres and ROW exclusion areas on 6,470 acres	<b>B-LR-3: PHMA:</b> Make PHMA an exclusion area for new BLM ROW or Forest Service SUA permits (see Table 2-9). Consider the following exceptions: <ul style="list-style-type: none"><li>Within designated ROW or SUA corridors encumbered by existing ROW or SUA authorizations: new ROWs or SUAs may be co-located only if the entire footprint of the proposed project (including construction and staging), can be completed within the existing disturbance associated with the authorized ROWs or SUAs.</li><li>Subject to valid existing rights: where new ROWs or SUAs associated with valid existing rights are required, co-locate new ROWs or SUAs within existing ROWs or SUAs or where it best minimizes Greater Sage-Grouse impacts. Use existing roads, or realignments as described above, to access valid existing rights that are not yet developed. If valid existing rights cannot be accessed via existing roads, then build any new road constructed to the absolute minimum standard necessary, and add the surface disturbance to the total disturbance in PHMA. If that disturbance exceeds 3% for that area, then evaluate and implement additional effective mitigation on a case-by-case basis to offset the resulting loss of Greater Sage-Grouse habitat.</li></ul> <b>GHMA:</b> Make GHMA an avoidance area for new ROWs or SUAs.	<b>C-LR-3: PHMA:</b> New corridors/facilities will be sited in non-habitat and bundled with existing corridors to the maximum extent possible (see Table 2-9).	<b>D-LR-3: PHMA:</b> Designate PHMA as ROW Avoidance areas and exclusion areas for wind and solar development (see Table 2-9). New authorizations for the following uses are not allowed: Transmission facilities (greater than 50kV in size), wind energy testing and development, commercial solar development, nuclear development, airports, and ancillary facilities associated with any of the aforementioned development; paved roads and graded gravel roads, landfills, airports, and hydroelectric projects. Communication sites would be allowed.  <b>IHMA:</b> Designate IHMA as ROW Avoidance areas. Access roads or loop roads would be addressed during the ROW authorization processing and on a case-by-case basis.  <b>GHMA:</b> Same as IHMA.	<b>E-LR-3: Idaho – CHZ:</b> Designate CHZ as ROW avoidance areas with limited exceptions permissible and subject to BMPs. Compensatory mitigation would be required (see Table 2-9).  <b>Idaho – IHZ:</b> Designate IHZ as ROW avoidance areas. New ROWs and infrastructure are permissible subject to certain criteria and BMPs similar to those required for habitat in Utah. Mitigate unavoidable impacts.  <b>Idaho – GHZ:</b> Manage new ROWs consistent with local resource management plans.  There are no special conservation measures for Greater Sage-Grouse in addition to those measures contained within existing land use plans regarding infrastructure development within GHZ.  <b>Montana Habitat:</b> Same as Alternative A.  <b>Utah Habitat:</b> Management stipulations and conditions should focus on mitigating direct disturbance during construction for all ROWs in PHMA. Should new research demonstrate indirect impacts on Greater Sage-Grouse production, additional mitigation measures may be required. PHMA would be designated as an avoidance area for new ROWs.  Limit or ameliorate impacts from ROW location, including from wind and solar energy development, through the use of the general stipulations identified in the Greater Sage-Grouse section, as well as	<b>F-LR-3: PHMA:</b> PHMA shall be an exclusion area for new ROWs permits (see Table 2-9). Consider the following exceptions: <ul style="list-style-type: none"><li>Within designated ROW corridors encumbered by existing ROW authorizations: new ROWs may be co-located only if the entire footprint of the proposed project (including construction and staging), can be completed within the existing disturbance associated with the authorized ROWs.</li><li>Subject to valid existing rights: where new ROWs associated with valid existing rights are required, co-locate new ROWs within existing ROWs or where it best minimizes Greater Sage-Grouse impacts. Use existing roads, or realignments as described above, to access valid existing rights that are not yet developed. If valid existing rights cannot be accessed via existing roads, then build any new road constructed to the absolute minimum standard necessary, and add the surface disturbance to the total disturbance in PHMA. If that disturbance exceeds 3% for that area, then make additional effective mitigation necessary that has been demonstrated to be effective to offset the resulting loss of Greater Sage-Grouse habitat.</li></ul> <b>GHMA:</b> Same as Alternative A.  <b>RHMA:</b> Same as Alternative A.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
(see above)	(see above)	(see above)	(see above)	best management practices accepted by industry and state and federal agencies.  For electrical transmission lines, and where feasible and consistent with federally required electrical separation standards, site new linear transmission features in existing corridors, or at a minimum, in concert with existing linear features in Greater Sage-Grouse habitat. Siting linear features accordingly shall be deemed to be mitigation for the siting of that linear feature. Mitigation for the direct effects of construction is still required. PHMA would be available for wind energy development, though it would be designated as an avoidance area for wind energy development.	(see above)
<b>A-LR-4:</b> The presence of sensitive resources, such as sagebrush habitat, is typically examined before a ROW grant is issued.	<b>B-LR-4: PHMA:</b> —. <b>GHMA:</b> —.	<b>C-LR-4: PHMA:</b> ROWs will be amended to require features that enhance Greater Sage-Grouse habitat security.	<b>D-LR-4: PHMA:</b> —. <b>IHMA:</b> —. <b>GHMA:</b> —.	<b>E-LR-4: Idaho – CHZ:</b> Maintain and improve Greater Sage-Grouse populations within CHZ, while allowing, and mitigating, for new and limited infrastructure development identified by the Implementation Commission as high value and where the proposed action can meet certain criteria.  <b>Idaho – IHZ:</b> Infrastructure is generally permissible, but requires analysis of whether it can be reasonably accomplished outside IHZ.  <b>Idaho – GHZ:</b> —.  <b>Utah Habitat:</b> —.	<b>F-LR-4: PHMA:</b> —. <b>GHMA:</b> —. <b>RHMA:</b> —.
<b>A-LR-5:</b> —.	<b>B-LR-5: PHMA:</b> —. <b>GHMA:</b> —.	<b>C-LR-5: PHMA:</b> —.	<b>D-LR-5: PHMA:</b> New ROW and land use authorizations, unless otherwise excluded, would be avoided whenever possible. Any new ROW and land use authorizations would not result in a net loss of Greater Sage-Grouse habitat of the respective PHMA.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> New ROW and land use authorizations would be avoided whenever possible.	<b>E-LR-5: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-LR-5: PHMA:</b> —. <b>GHMA:</b> —. <b>RHMA:</b> —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-LR-6:</b> —.	<b>B-LR-6: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-LR-6: PHMA:</b> —.	<b>D-LR-6: PHMA:</b> New authorizations and amendments to existing ROW and land use authorizations would be subject to siting prescriptions and design features considered on a case-by-case basis, in subsequent NEPA analysis. This could include amendments to the types of uses that are excluded from consideration as new authorizations. For example upgrade of an existing 50-kV power line to a 115-kV power line, to eliminate the need for an additional line could be considered.  <b>IHMA:</b> New authorizations and amendments to existing ROW and land use authorizations would be considered subject to siting prescriptions and design features considered on a case-by-case basis, in subsequent NEPA analysis.  <b>GHMA:</b> Same as IHMA.	<b>E-LR-6: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-LR-6: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-LR-7:</b> —.	<b>B-LR-7: PHMA:</b> —.  <b>GHMA:</b> Where new ROWs or SUAs are necessary in GHMA, co-locate new ROWs or SUAs within existing ROWs or SUAs where possible.	<b>C-LR-7: PHMA:</b> —.	<b>D-LR-7: PHMA:</b> New authorizations or amendments to existing ROW and land use authorizations should be sited substantially within an existing disturbance or minimum necessary adjacent to the existing footprint, where feasible.  <b>IHMA:</b> New authorizations or amendments to existing ROW and land use authorizations should be sited substantially within the existing disturbance footprints where feasible.  <b>GHMA:</b> Same as IHMA.	<b>E-LR-7: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-LR-7: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-LR-8:</b> —.	<b>B-LR-8: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-LR-8: PHMA:</b> —.	<b>D-LR-8: PHMA:</b> When reauthorizing transmission or authorizing and/or reauthorizing distribution lines, incorporate RDFs into the authorization.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-LR-8: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-LR-8: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-LR-9:</b> —.	<b>B-LR-9: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-LR-9: PHMA:</b> —.	<b>D-LR-9: PHMA:</b> Site new authorizations or facilities, not otherwise excluded, outside the 3 km (1.86 miles) occupied lek avoidance buffer areas unless NEPA analysis suggests that a greater or lesser distance is required, based on topographic features or other mitigating factors. If new distribution lines (50 kV or less) cannot be sited outside the 3 km buffer, they should be buried or designed to minimize use by avian predators.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-LR-9: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-LR-9: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-LR-10:</b> —.	<b>B-LR-10: PHMA:</b> Evaluate and take advantage of opportunities to remove, bury, or modify existing power lines within PHMA.  <b>GHMA:</b> —.	<b>C-LR-10: PHMA:</b> Same as Alternative B.	<b>D-LR-10: PHMA:</b> New power and communication lines (50 kV or less), outside of existing ROWs, would be buried, where physically feasible, and associated above-ground disturbance areas would be seeded with perennial vegetation as per vegetation management.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as IHMA.	<b>E-LR-10: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-LR-10: PHMA:</b> Same as Alternative B.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-LR-11:</b> All LUPs include management actions that require reclamation/restoration of disturbed areas that are no longer used in support of authorized actions.	<b>B-LR-11: PHMA:</b> Where existing leases or ROWs or SUAs have had some level of development (road, fence, well, etc.) and are no longer in use, reclaim the site by removing these features and restoring the habitat.  <b>GHMA:</b> —.	<b>C-LR-11: PHMA:</b> Same as Alternative B.	<b>D-LR-11: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-LR-11: Idaho – CHZ:</b> Prohibit the development of infrastructure, except if developed pursuant to valid existing rights or incremental upgrade and/or capacity increase of existing development (authorized prior to the ROD) subject to best management practices in Appendix Q [of the 2015 Final EIS]. a. Limit impacts of proposed actions to the existing authorized footprint with no more than a fifty percent (50%), depending on industry practice, increase in footprint size and associated impacts; and b. Include compensatory mitigation if new significant and unavoidable impacts are demonstrated to be associated with the project. c. Any exceptions to ROW development in CHZ would conform to the standards set forth for IHZ within the same CA.	<b>F-LR-11: PHMA:</b> Same as Alternative B.  <b>GHMA:</b> —.  <b>RHMA:</b> —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
(see above)	(see above)	(see above)	(see above)	<p><b>Idaho – IHZ:</b> Authorize new infrastructure development where the following circumstances exist.</p> <p>a. The project cannot reasonably be achieved, technically or economically, outside of this management zone; and</p> <p>b. The project is co-located within the footprint for existing infrastructure, to the extent practicable. In the event co-location is not practicable, the siting should best reduce cumulative impacts and/or impacts on other high value natural, cultural, or societal resources; and</p> <p>c. The project does not result in unnecessary and undue habitat fragmentation or other impacts causing a decline in the population of the species within the relevant CA; and</p> <p>d. The project design mitigates unavoidable impacts through an appropriate compensatory mitigation plan; and</p> <p>e. The project complies with the applicable best management practices in Appendix Q [of the 2015 Final EIS].</p> <p><b>Idaho – GHZ:</b> Authorize infrastructure construction consistent with the relevant land management components as provided for in Appendix Q [of the 2015 Final EIS].</p> <p><b>Utah Habitat:</b> —.</p>	(see above)

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-LR-12: —.</b>	<b>B-LR-12: PHMA:</b> Planning Direction Note: Relocate existing designated ROW corridors crossing PHMA void of any authorized ROWs, outside of PHMA. If relocation is not possible, undesignate that entire corridor during the planning process.  <b>GHMA: —.</b>	<b>C-LR-12: PHMA:</b> Same as Alternative B.	<b>D-LR-12: PHMA: —.</b>  <b>IHMA: —.</b>  <b>GHMA: —.</b>	<b>E-LR-12: Idaho – CHZ:</b> Prohibit the development of infrastructure with limited exceptions analyzed by the Implementation Task Force as part of the site-specific NEPA analysis. The following criteria would be used in those assessments: a. The project is developed pursuant to a valid existing authorization; b. The project is an incremental upgrade/capacity increase of existing development; c. Cannot be reasonably accomplished outside of CHZ; d. Can be co-located within the existing infrastructure; e. Demonstrates the population trend for the species within the relevant CA is stable or increasing over a three-year period; f. Project would benefit the state of Idaho g. Shall mitigate unavoidable impacts according to Idaho’s Mitigation Framework (Appendix Q [of the 2015 Final EIS]).  The Governor would consult with the BLM and Forest Service on the Implementation Task Force’s recommendation, which the BLM and Forest Service must consider during the project’s permit application.  <b>Idaho – IHZ: —.</b>  <b>Idaho – GHZ: —.</b>  <b>Utah Habitat: —.</b>	<b>F-LR-12: PHMA:</b> Same as Alternative B.  <b>GHMA: —.</b>  <b>RHMA: —.</b>
<b>A-LR-13: —.</b>	<b>B-LR-13: PHMA: —.</b>  <b>GHMA: —.</b>	<b>C-LR-13: PHMA: —.</b>	<b>D-LR-13: PHMA: —.</b>  <b>IHMA: —.</b>  <b>GHMA: —.</b>	<b>E-LR-13: Idaho – CHZ:</b> Allow for exemptions to new infrastructure development where a project proponent can satisfy all of the stringent criteria identified in the regulatory language and provide compensatory mitigation.	<b>F-LR-13: PHMA: —.</b>  <b>GHMA: —.</b>  <b>RHMA: —.</b>



Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
A-LR-14: —.	B-LR-14: PHMA: —.  GHMA: —.	C-LR-14: PHMA: —.	D-LR-14: PHMA: —.  IHMA: —.  GHMA: —.	E-LR-14: Idaho – CHZ: In allowing for new infrastructure development exemptions, the project proponent must demonstrate that the project would provide a high-value benefit to meet critical existing needs or important societal objectives to the State of Idaho. Coordinate exemptions with the State Implementation Commission.	F-LR-14: PHMA: —.  GHMA: —.  RHMA: —.
A-LR-15: —.	B-LR-15: PHMA: —.  GHMA: —.	C-LR-15: PHMA: —.	D-LR-15: PHMA: Process unauthorized use. If the unauthorized use does not serve the best interest of the public, reclaim the site by removing these features and restoring the habitat. If the use needs to be authorized, management actions for new authorizations would need to be consistent with objectives for conserving Greater Sage-Grouse.  IHMA: Same as PHMA.  GHMA: Same as PHMA.	E-LR-15: Idaho – Common to All Habitats: —.  Utah Habitat: —.	F-LR-15: PHMA: —.  GHMA: —.  RHMA: —.
A-LR-16: —.	B-LR-16: PHMA: —.  GHMA: —.	C-LR-16: PHMA: —.	D-LR-16: PHMA: Land authorizations that are temporary in nature (e.g., film permits, apiaries), that do not result in loss of Greater Sage-Grouse habitat would be subject to seasonal or timing restrictions and are otherwise exempt from mitigation requirements regarding habitat loss.  IHMA: Same as PHMA.  GHMA: Same as PHMA.	E-LR-16: Idaho – Common to All Habitats: —.  Utah Habitat: —.	F-LR-16: PHMA: —.  GHMA: —.  RHMA: —.
A-LR-17: —.	B-LR-17: PHMA: —.  GHMA: —.	C-LR-17: PHMA: —.	D-LR-17: PHMA: Guy wires will be avoided where feasible. Where guy wires are necessary and appropriate without causing a human safety risk, bird collision diverters will be required.  IHMA: Same as PHMA.  GHMA: Same as PHMA.	E-LR-17: Idaho – Common to All Habitats: —.  Utah Habitat: —.	F-LR-17: PHMA: —.  GHMA: —.  RHMA: —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-LR-18:</b> —.	<b>B-LR-18: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-LR-18: PHMA:</b> —.	<b>D-LR-18: PHMA:</b> Design structures and facilities to reduce perching and nesting opportunities for avian predators. Follow APLIC guidelines to minimize electrocution and collision risks.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-LR-18: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> Predation control and management should be managed by Wildlife Services, Department of Agriculture and Food, in coordination with the Division of Wildlife Resources. Eliminate or minimize external food sources for corvids, particularly dumps, waste transfer facilities, and road kill. Apply habitat management practices (e.g., grazing management, vegetation treatments) that decrease the effectiveness of predators.	<b>F-LR-18: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
Land Tenure					
<b>A-LR-19:</b> In order to be considered for any form of land tenure adjustment, all lands not specifically identified for disposal must meet criteria included in FLPMA and in each LUP.  Montana BLM: Retention Lands identified on 31,600 acres of PPH; 25,400 acres of PGH. Disposal Lands identified on 426 acres of PPH and 2,191 acres of PGH.	<b>B-LR-19: PHMA:</b> Retain public ownership of PHMA. Consider exceptions where: There is mixed ownership, and land exchanges would allow for additional or more contiguous federal ownership patterns within PHMA. In PHMA with minority federal ownership, include an additional, effective mitigation agreement for any disposal of federal land. As a final preservation measure, consideration should be given to pursuing a permanent conservation easement.  <b>GHMA:</b> —.	<b>C-LR-19: PHMA:</b> All BLM-administered lands in ACECs, occupied habitats, and identified restoration and rehab land areas will be retained in public ownership.	<b>D-LR-19: PHMA:</b> Acquire habitat when possible and retain ownership of habitat, including lands identified for disposal in current land use plans, except if a disposal would allow for additional or more contiguous federal ownership patterns within PHMA.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-LR-19: Idaho – Common to All Habitats:</b> —.  <b>Montana Habitat:</b> Same as Alternative A.  <b>Utah Habitat:</b> —.	<b>F-LR-19: PHMA:</b> Same as Alternative B, without exceptions for disposal to consolidate ownership that would be beneficial to Greater Sage-Grouse.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-LR-20:</b> —.	<b>B-LR-20: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-LR-20: PHMA:</b> —.	<b>D-LR-20: PHMA:</b> Lands currently identified for retention within PHMA would be retained unless disposal of those lands would increase the extent or provide for connectivity of PHMA.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-LR-20: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-LR-20: PHMA:</b> No action.  <b>GHMA:</b> —.  <b>RHMA:</b> —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-LR-21:</b> —.	<b>B-LR-21: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-LR-21: PHMA:</b> —.	<b>D-LR-21: PHMA:</b> Evaluate potential land exchanges containing historically low-quality Greater Sage-Grouse habitat that may be too costly to restore in exchange for lands of higher quality habitat, lands that connect seasonal Greater Sage-Grouse habitats or lands providing for threatened and endangered species. These potential exchanges should lead to an increase in the extent or continuity of or provide for improved connectivity of PHMA. Higher priority will be given to exchanges for those intact areas of sagebrush that will contribute to the expansion of PHMA sagebrush areas currently in public ownership. Lower priority will be given to those lands that will promote enhancement the other PHMA and GHMA areas.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-LR-21: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-LR-21: PHMA:</b> No action.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-LR-22:</b> Most LUPs include a management action that allows for acquisition of lands that have important resource values including crucial wildlife habitat and land tenure adjustments to improve the manageability of BLM- and Forest Service-administered lands.  In order to be considered for any form of land tenure adjustment, all lands not specifically identified for disposal must meet criteria included in the LUPs.	<b>B-LR-22: PHMA:</b> Where suitable conservation actions cannot be achieved in PHMA, seek to acquire state and private lands with intact subsurface mineral estate by donation, purchase or exchange in order to best conserve, enhance or restore Greater Sage-Grouse habitat.  <b>GHMA:</b> —.	<b>C-LR-22: PHMA:</b> Acquisition will be prioritized over easements.	<b>D-LR-22: PHMA:</b> —.  <b>IHMA:</b> Identify lands for acquisition that increase the extent of or provide for connectivity of PHMA.  Acquisition of Greater Sage-Grouse PHMA will have priority over the acquisition of land for other program purposes subject to the approval of the Authorized officer.  <b>GHMA:</b> —.	<b>E-LR-22: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-LR-22: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-LR-23:</b> Most LUPs include a management action that allows for acquisition of lands that have important resource values including crucial wildlife habitat and land tenure adjustments to improve the manageability of BLM- and Forest Service-administered lands.  In order to be considered for any form of land tenure adjustment, all lands not specifically identified for disposal must meet criteria included in the LUPs.	<b>B-LR-23: PHMA:</b> Conservation Measure: Identify areas where acquisitions (including subsurface mineral rights) or conservation easements, would benefit Greater Sage-Grouse habitat.  <b>GHMA:</b> —.	<b>C-LR-23: PHMA:</b> Conservation Measure: Same as Alternative B.	<b>D-LR-23: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-LR-23: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-LR-23: PHMA:</b> Conservation Measure: Same as Alternative B.  <b>GHMA:</b> —.  <b>RHMA:</b> —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Withdrawal					
<b>A-LR-24:</b> —.	<b>B-LR-24: PHMA:</b> Recommend lands within PHMA for mineral withdrawal.  <b>GHMA:</b> —.	<b>C-LR-24: PHMA:</b> Same as Alternative B.	<b>D-LR-24: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-LR-24: Idaho – CHZ:</b> —.  <b>Idaho – IHZ:</b> —.  <b>Idaho – GHZ:</b> —.  <b>Utah Habitat:</b> Do not propose additional federal lands or non-federal lands with federal mineral interests within PHMA for locatable mineral withdrawal. PHMA that is not already withdrawn or recommended for withdrawal would be available for locatable mineral entry. To the extent allowable by laws and regulations and to the extent the claimant would be willing to apply the standards, limit or ameliorate impacts through the use of the general stipulations identified in the Greater Sage-Grouse section. Recognize that surface vents associated with underground mining are essential for human safety, and must be permitted under the provisions of this alternative.	<b>F-LR-24: PHMA:</b> Same as Alternative B.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-LR-25:</b> —.	<b>B-LR-25: PHMA:</b> In PHMA, do not recommend withdrawal proposals not associated with mineral activity unless the land management is consistent with Greater Sage-Grouse conservation measures (e.g., in a recommended withdrawal for a military training range buffer area, manage the buffer area with Greater Sage-Grouse conservation measures).  <b>GHMA:</b> —.	<b>C-LR-25: PHMA:</b> Same as Alternative B.	<b>D-LR-25: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-LR-25: Idaho – CHZ:</b> —.  <b>Idaho – IHZ:</b> —.  <b>Idaho – GHZ:</b> —.  <b>Utah Habitat:</b> —.	<b>F-LR-25: PHMA:</b> Do not approve withdrawal proposals not associated with mineral activity unless the land management is consistent with Greater Sage-Grouse conservation measures (e.g., in a recommended withdrawal for a military training range buffer area, manage the buffer area with Greater Sage-Grouse conservation measures that have been demonstrated to be effective).  <b>GHMA:</b> —.  <b>RHMA:</b> —.
Utility Corridors					
<b>A-LR-26:</b> Continue to manage 85,600 acres of utility corridors, including 64,200 acres of West-Wide Energy Corridors.	<b>B-LR-26: PHMA:</b> Same as Alternative A.  <b>GHMA:</b> Manage 39,200 acres of utility corridors.	<b>C-LR-26: PHMA:</b> Manage 83,800 acres of utility corridors.	<b>D-LR-26: PHMA:</b> Manage 39,800 acres of utility corridors.  <b>IHMA:</b> Manage 4,750 acres of utility corridors.  <b>GHMA:</b> Same as Alternative A.	<b>E-LR-26: Idaho – CHZ:</b> Manage 31,000 acres of utility corridors.  <b>Idaho – IHZ:</b> Manage 12,800 acres of utility corridors.  <b>Idaho – GHZ:</b> Manage 40,000 acres of utility corridors.  <b>Utah Habitat:</b> Same as Alternative A.	<b>F-LR-26: PHMA:</b> Same as Alternative A.  <b>GHMA:</b> Manage 39,200 acres of utility corridors.  <b>RHMA:</b> Manage 6,450 acres of utility corridors.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Fluid Minerals - Leased Federal Fluid Mineral Estate					
<p><b>A-MLS-I:</b> No similar action for sub-region.</p> <p>Montana BLM: When leases expire, apply oil and gas stipulations listed in Table 5 pg. 44 of Dillon Field Office ROD/RMP also refer to Appendix K and M of the Dillon ROD/RMP.</p>	<p><b>B-MLS-I: PHMA:</b> Apply the following nine conservation measures through LUP implementation decisions (e.g., approval of an Application for Permit to Drill, Sundry Notice, etc.) and upon completion of the environmental record of review (43 CFR 3162.5), including appropriate documentation of compliance with NEPA. In this process evaluate, among other things:</p> <ul style="list-style-type: none"><li>• Whether the conservation measure is “reasonable” (43 CFR 3101.1-2) with the valid existing rights; and</li><li>• Whether the action is in conformance with the approved LUP.</li></ul> <p><b>GHMA:</b> —.</p>	<p><b>C-MLS-I: PHMA:</b> Same as Alternative B.</p>	<p><b>D-MLS-I: PHMA:</b> Use RDFs as COAs for post-leasing actions, such as surface use plan of operations, application for permit to drill, or master development plan.</p> <p><b>IHMA:</b> Same as PHMA.</p> <p><b>GHMA:</b> Same as PHMA.</p>	<p><b>E-MLS-I: Idaho – CHZ:</b> All valid existing rights are protected. In CHZ and IHZ, projects to develop an existing fluid mineral lease (i.e., implementation decisions) would be subject to the following BMPs:</p> <ul style="list-style-type: none"><li>i. Utilize existing roads, or realignments of existing routes to the extent possible.</li><li>ii. Construct new roads to minimum design standards needed for production activities.</li><li>iii. To the extent possible, micro-site linear facilities to reduce impacts on Greater Sage-Grouse habitats.</li><li>iv. Locate staging areas outside CHZ to the extent possible.</li><li>v. To the extent possible, co-locate linear facilities within one kilometer of existing linear facilities.</li><li>vi. New transmission lines, excluding those lines under (viii), will be deemed co-located and/or permissible if construction occurs between July 1 and March 14 (or between July 1 and November 30 in winter concentration areas) and within one kilometer either side of existing 115-kilovolt (kV) or larger transmission lines to create a corridor no wider than two kilometers.</li><li>vii. New transmission lines, excluding those lines under (viii), outside of this two kilometer corridor can only be constructed where it can be demonstrated that the activity will not cause declines in Greater Sage-Grouse populations or if the activity reduces cumulative impacts and/or avoids other important natural, cultural or societal resources.</li><li>viii. Locate essential public services, including but not limited to, distribution lines, domestic water lines and gas lines, at least one kilometer from active Greater Sage-Grouse leks. If one kilometer avoidance is not possible, construct lines outside of March 15 to June 30.</li></ul> <p><b>Idaho – IHZ:</b> Same as Idaho – CHZ.</p> <p><b>Idaho – GHZ:</b> —.</p>	<p><b>F-MLS-I: PHMA:</b> Apply the following conservation measures as COAs at the project and well permitting stages, and through LUP implementation decisions and upon completion of the environmental record of review (43 CFR § 3162.5), including appropriate documentation of compliance with NEPA. In this process evaluate, among other things:</p> <ul style="list-style-type: none"><li>• Whether the conservation measure is “reasonable” (43 CFR § 3101.1-2) with the valid existing rights; and</li><li>• Whether the action is in conformance with the approved LUP.</li></ul> <p><b>GHMA:</b> —.</p> <p><b>RHMA:</b> —.</p>

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
(see above)	(see above)	(see above)	(see above)	<b>Montana Habitat:</b> Same as Alternative A.  <b>Utah Habitat:</b> All existing uses are explicitly recognized by this alternative and shall not be affected by the implementation of this alternative. The Greater Sage-Grouse conservation measures identified in the associated NEPA documents for each of these projects would continue to be implemented to protect Greater Sage-Grouse and its habitat. Provisions of this plan would not be added to the measures identified each specific project.	(see above)
<b>A-MLS-2:</b> —. Measures that reduce or eliminate impacts on Greater Sage-Grouse are considered on a case-by-case basis during implementation level planning.	<b>B-MLS-2: PHMA:</b> Provide the following conservation measures as terms and conditions of the approved LUP: Do not allow new surface occupancy on federal leases within PHMA, this includes winter concentration areas (Doherty et al. 2008, Carpenter et al. 2010) during any time of the year. Consider an exception: If the lease is entirely within PHMA, apply a 4-mile NSO around the lek, and limit permitted disturbances to 1 per section with no more than 3% surface disturbance in that section. If the entire lease is within the 4-mile lek perimeter, limit permitted disturbances to 1 per section with no more than 3% surface disturbance in that section. Require any development to be placed at the most distal part of the lease from the lek, or, depending on topography and other habitat aspects, in an area that is less demonstrably harmful to Greater Sage-Grouse.  <b>GHMA:</b> —.	<b>C-MLS-2: PHMA:</b> Same as Alternative B.	<b>D-MLS-2: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-MLS-2: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> All existing uses are explicitly recognized by this alternative and shall not be affected by the implementation of this alternative. The Greater Sage-Grouse conservation measures identified in the associated NEPA documents for each of these projects would continue to be implemented to protect Greater Sage-Grouse and its habitat. Provisions of this plan would not be added to the measures identified each specific project.	<b>F-MLS-2: PHMA:</b> Conservation Measure: Same as Alternative B.  <b>GHMA:</b> —.  <b>RHMA:</b> —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-MLS-3:</b> Most LUPs include a management action that prohibits surface disturbing or other disruptive within Greater Sage-Grouse breeding and nesting habitat within a certain distance and between certain dates. The protect buffers around leks vary.	<b>B-MLS-3: PHMA:</b> Conservation Measure: Apply a seasonal restriction on exploratory drilling that prohibits surface-disturbing activities during the nesting and early brood-rearing season in PHMA during this period.  <b>GHMA:</b> —.	<b>C-MLS-3: PHMA:</b> Timing avoidance periods will be required.	<b>D-MLS-3: PHMA:</b> See D-MLS-1.  <b>IHMA:</b> See D-MLS-1.  <b>GHMA:</b> See D-MLS-1.	<b>E-MLS-3: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> Allow exploratory drilling within PHMA, subject to the same seasonal and controlled surface use stipulations as would be applied to leases within PHMA.	<b>F-MLS-3: PHMA:</b> Conservation Measure: Apply a seasonal restriction on exploratory drilling that prohibits surface-disturbing activities during the nesting and brood-rearing season in PHMA during this period. This seasonal restriction shall also to apply to related activities that are disruptive to Greater Sage-Grouse, including vehicle traffic and other human presence.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-MLS-4:</b> —.	<b>B-MLS-4: PHMA:</b> Conservation Measure: Complete Master Development Plans in lieu of Application for Permit to Drill (APD)-by-APD processing for all but wildcat wells.  <b>GHMA:</b> —.	<b>C-MLS-4: PHMA:</b> Conservation Measure: Same as Alternative B.	<b>D-MLS-4: PHMA:</b> Conservation Measure: For leases where a producing field is proposed to be developed, complete a Master Development Plan in lieu of APD-by-APD processing.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-MLS-4: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-MLS-4: PHMA:</b> Conservation Measure: Same as Alternative B.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-MLS-5:</b> —.	<b>B-MLS-5: PHMA:</b> Conservation Measure: When permitting APDs on existing leases that are not yet developed, the proposed surface disturbance cannot exceed 3% for that area. Consider an exception if: Additional, effective mitigation is demonstrated to offset the resulting loss of Greater Sage-Grouse (see Objectives, Table 2-10).  When necessary, conduct additional, effective mitigation in 1) PHMA or – less preferably – 2) GHMA (dependent upon the area-specific ability to increase Greater Sage-Grouse populations). Conduct additional, effective mitigation first within the same population area where the impact is realized, and if not possible then conduct mitigation within the same Management Zone as the impact, per Stiver et al. (2006), pg. 2-17.  <b>GHMA:</b> —.	<b>C-MLS-5: PHMA:</b> Conservation Measure: Same as Alternative B.	<b>D-MLS-5: PHMA:</b> Conservation Measure: When approving a Master Development Plan on a lease, if on-site mitigation is inadequate to restore habitat, consider off-site mitigation to improve habitat, in accordance with Stiver et al. (2006), pg. 2-17, and current BLM and/or Forest Service policy regarding compensatory mitigation.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-MLS-5: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> All existing uses are explicitly recognized by this alternative and shall not be affected by the implementation of this alternative. The Greater Sage-Grouse conservation measures identified in the associated NEPA documents for each of these projects would continue to be implemented to protect Greater Sage-Grouse and its habitat. Provisions of this plan would not be added to the measures identified each specific project.	<b>F-MLS-5: PHMA:</b> Same as Alternative B.  <b>GHMA:</b> —.  <b>RHMA:</b> —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-MLS-6:</b> —. Current policy allows unitization to occur on a case-by-case basis.	<b>B-MLS-6: PHMA:</b> Conservation Measure: Require unitization when deemed necessary for proper development and operation of an area (with strong oversight and monitoring) to minimize adverse impacts on Greater Sage-Grouse according to the Federal Lease Form, 3100-II, Sections 4 and 6.  <b>GHMA:</b> —.	<b>C-MLS-6: PHMA:</b> Conservation Measure: Same as Alternative B.	<b>D-MLS-6: PHMA:</b> Conservation Measure: Require unitization when deemed necessary for proper development and operation of an area (with strong oversight and monitoring). The unitization must be designed in a manner to minimize adverse impacts on Greater Sage-Grouse according to the Federal Lease Form, 3100-II, Sections 4 and 6.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-MLS-6: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-MLS-6: PHMA:</b> Conservation Measure: Same as Alternative B.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-MLS-7:</b> —. Reclamation bonds are currently required under 43 CFR 3104 for all fluid mineral leases.	<b>B-MLS-7: PHMA:</b> Conservation Measure: For future actions, require a full reclamation bond specific to the site in accordance with 43 CFR 3104.2, 3104.3, and 3104.5. Insure bonds are sufficient for costs relative to reclamation (Connelly et al. 2000, Hagen et al. 2007) that would result in full restoration of the lands to the condition it was found prior to disturbance. Base the reclamation costs on the assumption that contractors for the BLM or Forest Service will perform the work.  <b>GHMA:</b> —.	<b>C-MLS-7: PHMA:</b> Conservation Measure: Same as Alternative B.	<b>D-MLS-7: PHMA:</b> Conservation Measure: If surface disturbing activities are proposed on a future lease, require a full reclamation bond specific to the site. Ensure reclamation bonds are sufficient to cover costs that would result in full rehabilitation. Base the reclamation costs on the assumption that contractors for the BLM will perform the work.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-MLS-7: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-MLS-7: PHMA:</b> Conservation Measure: Same as Alternative B.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-MLS-8:</b> —.  Individual land use plans may contain an appendix that outlines BMPs that are applied on a case-by-case basis.	<b>B-MLS-8: PHMA:</b> Conservation Measure: Make applicable BMPs (Appendix B [of the 2015 Final EIS]) mandatory as COAs within PHMA.  <b>GHMA:</b> —.	<b>C-MLS-8: PHMA:</b> Conservation Measure: Same as Alternative B.	<b>D-MLS-8: PHMA:</b> Conservation Measure: When an APD is submitted for approval on a lease, make applicable BMPs (Appendix B [of the 2015 Final EIS]) mandatory as COAs.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Conservation Measure: When an APD is submitted for approval on a lease, consider making applicable BMPs mandatory as COAs.	<b>E-MLS-8: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-MLS-8: PHMA:</b> Conservation Measure: Same as Alternative B.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-MLS-9:</b> —.	<b>B-MLS-9: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-MLS-9: PHMA:</b> Include conditions that require relinquishment of leases/authorizations if doing so will: 1) mitigate the impact of a proposed development, or 2) mitigate the unanticipated impacts of an approved development.	<b>D-MLS-9: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-MLS-9: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-MLS-9: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-MLS-10:</b> —.	<b>B-MLS-10: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-MLS-10: PHMA:</b> No waivers will be issued.	<b>D-MLS-10: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-MLS-10: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-MLS-10: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.



Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>A-MLS-11:</b> —.	<b>B-MLS-11: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-MLS-11: PHMA:</b> Any oil, gas, geothermal activity will be conducted to maximize avoidance of impacts, based on evolving scientific knowledge of impacts.	<b>D-MLS-11: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-MLS-11: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-MLS-11: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>Unleased Federal Fluid Mineral Estate</b>					
<p><b>A-MLS-12:</b> Fluid mineral leasing in Greater Sage-Grouse habitat will be managed as shown in Table 2-9.</p> <p>Additional stipulations, such as CSU, TL, or NSO, may be attached to a lease if the standard lease stipulations do not adequately protect a sensitive resource. If a resource cannot be adequately protected through the use of stipulations, the BLM may close that area to leasing. The Forest Service may choose not to consent to leasing on the lands it administers.</p> <p>Most LUPs include a management action that prohibits surface disturbing or other disruptive within Greater Sage-Grouse breeding and nesting habitat within a certain distance and between certain dates. The protect buffers around leks vary.</p> <p>Montana BLM: Current oil and gas stipulations listed in Table 5 pg. 44 of Dillon Field Office ROD/RMP. Conservation actions also in Appendix X of Dillon ROD/RMP.</p>	<p><b>B-MLS-12: PHMA:</b> Close PHMA to fluid mineral leasing (see Table 2-9). Upon expiration or termination of existing leases, do not accept nominations/expressions of interest for parcels within PHMA.</p> <p><b>GHMA:</b> Same as Alternative A.</p>	<p><b>C-MLS-12: PHMA:</b> No new leases or permits will be issued (see Table 2-9).</p>	<p><b>D-MLS-12: PHMA:</b> Areas of no and low potential for the discovery of fluid minerals are closed to leasing (see Table 2-9).</p> <p>Areas of moderate and high potential for the discovery of fluid minerals are open to leasing subject to CSU, timing restrictions in breeding and winter habitat, disturbance density not to exceed 1/640 acres, maximum 3% disturbance/section, NSO within 0.6 mile of occupied or undetermined status leks. Consider use of low profile structures/facilities.</p> <p><b>IHMA:</b> Same as PHMA.</p> <p><b>GHMA:</b> GHMA is open to leasing subject to timing limitations in breeding and winter habitat, 0.6 mile NSO near occupied and undetermined status leks, and implementation of appropriate BMPs.</p>	<p><b>E-MLS-12: Idaho – CHZ:</b> Fluid mineral leases in CHZ and IHZ shall be subject to an NSO stipulation. The BLM State Director may waive the stipulation only in situations where the development will not accelerate and/or cause declines in Greater Sage-Grouse populations within the relevant CA, based on the application of the following criteria-:</p> <p>a. The development cannot be reasonably accomplished outside of the management zone.</p> <p>b. Demonstrates the population trend for the species within the relevant Conservation Area is stable or increasing over a 3-year period.</p> <p>c. Demonstrates the individual or cumulative exceptions under this provision will not result in habitat fragmentation or other impacts causing a decline of the species within the relevant Conservation Area.</p> <p>d. Can be co-located with existing infrastructure to the maximum extent practicable.</p> <p>e. Shall mitigate unavoidable impacts through an appropriate compensatory mitigation plan.</p> <p>f. If the NSO stipulation is waived, any proposed development would be subject to the following BMPs:</p> <p>1. Evaluate the affected area in accordance with the process outlined in the State of Wyoming’s Executive Order 2011-5.</p> <p>2. In PHMA, surface disturbance will be limited to three percent of suitable habitat per an average of 640 acres. Development within IHZ will be limited to five percent of suitable habitat per an average of 640 acres.</p> <p>3. NSO within one kilometer of the perimeter of occupied Greater Sage-Grouse leks. This distance may be modified, provided it is supported by the best available science at the time</p>	<p><b>F-MLS-12: PHMA:</b> Upon expiration or termination of existing leases, do not accept nominations/expressions of interest for parcels within PHMA (see Table 2-9).</p> <p><b>GHMA:</b> Same as Alternative A.</p> <p><b>RHMA:</b> Same as Alternative A.</p>

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
(see above)	(see above)	(see above)	(see above)	<p>the development undergoes site-specific environmental analysis.</p> <p>4. Activity (production and maintenance activity exempted) will be allowed from July 1 to March 14 outside of the one kilometer perimeter of a lek where brood-rearing, nesting, and early brood-rearing habitat is present.</p> <p>5. In areas solely used as winter concentration areas, exploration and development activity will be allowed March 14 to December 1.</p> <p>6. Locate main roads used to transport production and/or waste products over 1.5 kilometers from the perimeter of occupied Greater Sage-Grouse leks. Locate other roads used to provide facility site access and maintenance over 1.5 kilometers from the perimeter of occupied Greater Sage-Grouse leks. Construct roads to minimum design standards needed for production activities.</p> <p>7. New noise levels, at the perimeter of a lek, should not exceed 10dBA above ambient noise (existing activity included) from 6:00 PM to 8:00 AM during the initiation of breeding (March 1-May 15). Ambient noise level should be determined by measurements taken at the perimeter of a lek at sunrise.</p> <p>8. Absent some demonstration to the contrary, the proposed sagebrush treatment associated with this activity will not reduce canopy cover to less than 15 percent.</p> <p><b>Idaho – IHZ:</b> Same as Idaho – CHZ.</p> <p><b>Idaho – GHZ:</b> —.</p> <p><b>Montana Habitat:</b> Same as Alternative A.</p> <p><b>Utah Habitat:</b> Unleased Areas within PHMA: PHMA would be designated as open to oil and gas leasing subject to controlled surface use stipulations (see list below) and the timing stipulations (see <b>Table 2-9</b>). Avoid activities</p>	(see above)

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
(see above)	(see above)	(see above)	(see above)	(construction, vehicle noise, etc.) in the following seasons and habitats (specific time and distance determinations for seasonal stipulations would be based on site-specific conditions, in coordination with the local UDWR biologist): <ul style="list-style-type: none"><li>Winter habitat from Nov 15 – Mar 15</li><li>Nesting and brood-rearing areas from Apr 1 – Aug 15</li><li>On leks from Feb 15 – May 15</li></ul> Where leasing/development is allowed within PHMA, Within PHMA, limit or ameliorate impacts from development through the use of the general stipulations identified in the Greater Sage-Grouse section.	(see above)
<b>A-MLS-13:</b> Allow geophysical exploration in areas that are not closed to fluid mineral leasing.	<b>B-MLS-13: PHMA:</b> Allow geophysical exploration within PHMA to obtain exploratory information for areas outside of and adjacent to PHMA. Allow geophysical operations only by helicopter-portable drilling methods and in accordance with seasonal timing restrictions and/or other restrictions that may apply.  <b>GHMA:</b> —.	<b>C-MLS-13: PHMA:</b> Same as Alternative B.	<b>D-MLS-13: PHMA:</b> Allow geophysical exploration subject to seasonal timing restrictions.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-MLS-13: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> Allow geophysical exploration within PHMA to obtain exploratory information. Geophysical exploration would be subject to the same seasonal and controlled surface use stipulations as would be applied to leases within PHMA.	<b>F-MLS-13: PHMA:</b> Allow geophysical exploration within PHMA to obtain exploratory information for areas outside of and adjacent to PHMA. Only allow geophysical operations by helicopter-portable drilling methods and in accordance with seasonal timing restrictions and/or other restrictions that may apply. Geophysical exploration shall be subject to seasonal restrictions that preclude activities in breeding, nesting, brood rearing and winter habitats during their season of use by Greater Sage-Grouse.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-MLS-14:</b> —.	<b>B-MLS-14: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-MLS-14: PHMA:</b> —.	<b>D-MLS-14: PHMA:</b> When a surface disturbing activity is proposed on a future fluid mineral lease, include in the NEPA analysis an alternative that sites the activity at the most distal part of the lease from any lek, or in an area that is less harmful to Greater Sage-Grouse habitat.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-MLS-14: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-MLS-14: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Locatable Minerals					
<p><b>A-MLM-1:</b> Locatable minerals would be managed as shown in Table 2-9.</p> <p>Procedures and standards are established to ensure that operators and mining claimants meet their obligation to prevent undue or unnecessary degradation and to reclaim disturbed areas.</p> <p>The existing land use plans identify areas that are closed to mineral entry but are silent on mitigation measures to be taken in Greater Sage-Grouse habitat.</p> <p>Montana BLM: 2,520 acres of PPH recommended for withdrawal, 320 acres of PGH recommended for withdrawal.</p>	<p><b>B-MLM-1: PHMA:</b> Recommend withdrawal from mineral entry based on risk to the Greater Sage-Grouse and its habitat from conflicting locatable mineral potential and development (see Table 2-9). Make any existing claims within the withdrawal area subject to validity exams or buy out. Include claims that have been subsequently determined to be null and void in the recommended withdrawal. In plans of operations required prior to any proposed surface disturbing activities, include the following: Additional, effective mitigation in perpetuity for conservation (In accordance with existing policy, WO IM 2008-204). Example: purchase private land and mineral rights or severed subsurface mineral rights within PHMA and deed to US Government). Consider seasonal restrictions if deemed effective.</p> <p><b>GHMA:</b> Same as Alternative A.</p>	<p><b>C-MLM-1: PHMA:</b> Same as Alternative B (see Table 2-9).</p>	<p><b>D-MLM-1: PHMA:</b> Lands would remain open to locatable mineral entry (see Table 2-9).</p> <p><b>IHMA:</b> Same as PHMA.</p> <p><b>GHMA:</b> Same as PHMA.</p>	<p><b>E-MLM-1: Idaho – Common to All Habitats:</b> Same as Alternative A (see Table 2-9).</p> <p><b>Montana Habitat:</b> Same as Alternative A.</p> <p><b>Utah Habitat:</b> Same as Alternative A.</p>	<p><b>F-MLM-1: PHMA:</b> Same as Alternative B (see Table 2-9).</p> <p><b>GHMA:</b> Same as Alternative A.</p> <p><b>RHMA:</b> Same as Alternative A.</p>
<p><b>A-MLM-2:</b> The existing land use plans do not identify mitigation measures to be taken in Greater Sage-Grouse habitat.</p>	<p><b>B-MLM-2: PHMA:</b> Make applicable BMPs (see Appendix B [of the 2015 Final EIS]) mandatory as COAs within PHMA.</p> <p><b>GHMA:</b> —.</p>	<p><b>C-MLM-2: PHMA:</b> Same as Alternative B.</p>	<p><b>D-MLM-2: PHMA:</b> —.</p> <p><b>IHMA:</b> —.</p> <p><b>GHMA:</b> —.</p>	<p><b>E-MLM-2: Idaho – Common to All Habitats:</b> —.</p> <p><b>Utah Habitat:</b> —.</p>	<p><b>F-MLM-2: PHMA:</b> Same as Alternative B.</p> <p><b>GHMA:</b> —.</p> <p><b>RHMA:</b> —.</p>
<p><b>A-MLM-3:</b> The existing land use plans do not identify mitigation measures to be taken in Greater Sage-Grouse habitat.</p>	<p><b>B-MLM-3: PHMA:</b> —.</p> <p><b>GHMA:</b> —.</p>	<p><b>C-MLM-3: PHMA:</b> —.</p>	<p><b>D-MLM-3: PHMA:</b> Ensure compliance with regulations in 43 CFR 3809 and 36 CFR 228 to prevent unnecessary and undue degradation (from WO IM 2012-044).</p> <p><b>IHMA:</b> Same as PHMA.</p> <p><b>GHMA:</b> Same as PHMA.</p>	<p><b>E-MLM-3: Idaho – Common to All Habitats:</b> —.</p> <p><b>Utah Habitat:</b> —.</p>	<p><b>F-MLM-3: PHMA:</b> No action.</p> <p><b>GHMA:</b> —.</p> <p><b>RHMA:</b> —.</p>

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Salable Minerals					
<p><b>A-MSM-1:</b> Salable minerals in Greater Sage-Grouse habitat will be managed as shown in Table 2-9.</p> <p>Most BLM- and Forest Service-administered land in Idaho is available for consideration of mineral material disposal, however existing guidance in many of the LUPs in the planning area encourages the use of existing disposal sites until the material is depleted.</p> <p>Montana BLM: See Appendix N, SOP of Dillon ROD/RMP for Mineral material sites on pg. 169 of ROD/RMP. 30,300 acres of PPH are closed to mineral material disposal; 22,600 acres of PGH are closed to mineral material disposal.</p>	<p><b>B-MSM-1: PHMA:</b> Close PHMA to mineral material sales (see Table 2-9).</p> <p><b>GHMA:</b> Same as Alternative A.</p>	<p><b>C-MSM-1: PHMA:</b> Same as Alternative B (see Table 2-9).</p>	<p><b>D-MSM-1: PHMA:</b> No new authorizations would be approved within 3 km of an occupied lek (see Table 2-9). Newly authorized disposals would be subject to seasonal timing restrictions and BMPs, as appropriate. Sales from existing community pits within PHMA would be subject to seasonal timing restrictions.</p> <p><b>IHMA:</b> Same as PHMA.</p> <p><b>GHMA:</b> No new authorizations would be approved within 3 km of an occupied lek. Disposals would be subject to seasonal timing restrictions, as appropriate.</p>	<p><b>E-MSM-1: Idaho – Common to All Habitats:</b> Same as Alternative A (see Table 2-9).</p> <p><b>Montana Habitat:</b> Same as Alternative A.</p> <p><b>Utah Habitat:</b> PHMA would be open to mineral materials (see Table 2-9). Limit or ameliorate impacts through the use of the general stipulations identified in the Greater Sage-Grouse section.</p>	<p><b>F-MSM-1: PHMA:</b> Same as Alternative B (see Table 2-9).</p> <p><b>GHMA:</b> Same as Alternative A.</p> <p><b>RHMA:</b> Same as Alternative A.</p>
<p><b>A-MSM-2:</b> —.</p>	<p><b>B-MSM-2: PHMA:</b> Restore salable mineral pits no longer in use to meet Greater Sage-Grouse habitat conservation objectives.</p> <p><b>GHMA:</b> —.</p>	<p><b>C-MSM-2: PHMA:</b> Same as Alternative B.</p>	<p><b>D-MSM-2: PHMA:</b> Restore salable mineral pits no longer in use to meet Greater Sage-Grouse habitat conservation objectives.</p> <p><b>IHMA:</b> Same as PHMA.</p> <p><b>GHMA:</b> Same as PHMA.</p>	<p><b>E-MSM-2: Idaho – Common to All Habitats:</b> —.</p> <p><b>Utah Habitat:</b> —.</p>	<p><b>F-MSM-2: PHMA:</b> Same as Alternative B.</p> <p><b>GHMA:</b> —.</p> <p><b>RHMA:</b> —.</p>
<p><b>A-MSM-3:</b> —.</p>	<p><b>B-MSM-3: PHMA:</b> —.</p> <p><b>GHMA:</b> —.</p>	<p><b>C-MSM-3: PHMA:</b> —.</p>	<p><b>D-MSM-3: PHMA:</b> Reclamation bonding will be required on new authorizations for mineral material sales in PHMA (this would not apply to free use permits issued to a government entity such as a county road district, but would apply to non-profit entities).</p> <p><b>IHMA:</b> Same as PHMA.</p> <p><b>GHMA:</b> Same as PHMA.</p>	<p><b>E-MSM-3: Idaho – Common to All Habitats:</b> —.</p> <p><b>Utah Habitat:</b> —.</p>	<p><b>F-MSM-3: PHMA:</b> —.</p> <p><b>GHMA:</b> —.</p> <p><b>RHMA:</b> —.</p>

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Non-Energy Leasable Minerals					
<p><b>A-MNL-1:</b> Manage non-energy leasable minerals on federal lands and non-federal lands with federal mineral interests within Greater Sage-Grouse habitat as shown in Table 2-9.</p> <p>Montana BLM: All BLM-administered lands in Dillon Field Office are available for development of leasable solid minerals except 124,200 acres of Bear Trap Wilderness and 9 WSA's (see ROD/RMP pg. 44).</p>	<p><b>B-MNL-1: PHMA:</b> Close PHMA to non-energy leasable mineral leasing (see Table 2-9). This includes not permitting any new leases to expand an existing mine.</p> <p><b>GHMA:</b> Same as Alternative A.</p>	<p><b>C-MNL-1: PHMA:</b> Same as Alternative B (see Table 2-9).</p>	<p><b>D-MNL-1: PHMA:</b> Future leasing and prospecting of non-energy minerals in PHMA is closed (see Table 2-9). Exceptions may be made for lease modifications and fringe leases where valid existing rights may be affected. Consider offsite mitigation, CSU and timing restrictions, as appropriate.</p> <p><b>IHMA:</b> Same as PHMA.</p> <p><b>GHMA:</b> Lands are available for leasing subject to applicable timing restrictions (seasonal and daily) for exploration activities and initial mine development, subject to mandatory lease stipulations, timing restrictions and CSU. Consider offsite mitigation opportunities.</p>	<p><b>E-MNL-1: Idaho – Common to All Habitats:</b> Same as Alternative A (see Table 2-9).</p> <p><b>Montana Habitat:</b> Same as Alternative A.</p> <p><b>Utah Habitat:</b> Manage non-energy leasable minerals on federal lands and non-federal lands with federal mineral interests within Greater Sage-Grouse habitat as shown in Table 2-9.</p> <p>Consider leasing federal lands and non-federal lands with federal mineral interests within PHMA for non-energy leasable minerals. Limit or ameliorate impacts from mineral leasing and development through the use of the general stipulations identified in the Greater Sage-Grouse section. Recognize that surface vents associated with underground mining are essential for human safety, and must be permitted under the provisions of this alternative.</p> <p>Commercial prospecting activities associated with non-energy leasable minerals would be required to comply with the same stipulations identified for leasing and development, above.</p>	<p><b>F-MNL-1: PHMA:</b> Same as Alternative B (see Table 2-9).</p> <p><b>GHMA:</b> Same as Alternative A.</p> <p><b>RHMA:</b> Same as Alternative A.</p>
<p><b>A-MNL-2:</b> Individual land use plans may contain an appendix that outlines BMPs that are applied on a case-by-case basis.</p> <p>The 2011 Pocatello RMP establishes operational standards and guidelines for reclamation plans; identifies interagency standards for contaminant levels in vegetation, surface, and groundwater; and implements best management practices to control sedimentation and contaminant release.</p>	<p><b>B-MNL-2: PHMA:</b> For existing non-energy leasable mineral leases in PHMA, in addition to the solid minerals BMPs (Appendix B [of the 2015 Final EIS]), follow the same BMPs applied to Fluid Minerals (Appendix B [of the 2015 Final EIS]), when wells are used for solution mining.</p> <p><b>GHMA:</b> —.</p>	<p><b>C-MNL-2: PHMA:</b> Same as Alternative B.</p>	<p><b>D-MNL-2: PHMA:</b> For existing undeveloped non-energy mineral leases, require timing restrictions (seasonal and daily) when exploration activities or initial mine development is proposed, as appropriate. Also require appropriate BMPs (Appendix B [of the 2015 Final EIS]) as COAs to the mine plan, and require restoration of habitat or off-site mitigation, if on-site restoration is not feasible.</p> <p><b>IHMA:</b> Same as PHMA.</p> <p><b>GHMA:</b> Same as PHMA.</p>	<p><b>E-MNL-2: Idaho – Common to All Habitats:</b> —.</p> <p><b>Utah Habitat:</b> —.</p>	<p><b>F-MNL-2: PHMA:</b> Same as Alternative B.</p> <p><b>GHMA:</b> —.</p> <p><b>RHMA:</b> —.</p>

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Mineral Split Estate					
<b>A-MSE-1:</b> Under current management, there is no designated Greater Sage-Grouse habitat. Decisions included in current management plans apply to both federal surface and mineral estate.	<b>B-MSE-1: PHMA:</b> Where the federal government owns the mineral estate in PHMA, and the surface is in non-federal ownership, apply the conservation measures applied on BLM- and Forest Service-administered lands.  <b>GHMA:</b> —.	<b>C-MSE-1: PHMA:</b> Same as Alternative B.	<b>D-MSE-1: PHMA:</b> Where the federal government owns the mineral estate in PHMA and the surface is in non-federal ownership, apply stipulations, conservation measures, and design features consistent with those applied to BLM- and Forest Service-administered lands in PHMA in the area.  <b>IHMA:</b> Same as PHMA.  <b>GHMA:</b> Same as PHMA.	<b>E-MSE-1: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> Because the surface estate is the key to conservation of habitat, the Greater Sage-Grouse habitat has been mapped according to surface ownership. However, implementation of his alternative will have to accommodate the dominant nature of the mineral estate, and react accordingly.	<b>F-MSE-1: PHMA:</b> Same as Alternative B.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-MSE-2:</b> —.  Under current management, there is no designated Greater Sage-Grouse habitat. Decisions included in current management plans apply to both federal surface and mineral estate.  Individual land use plans may contain an appendix that outlines BMPs that are applied on a case-by-case basis.	<b>B-MSE-2: PHMA:</b> Where the federal government owns the surface, and the mineral estate is in non-federal ownership in PHMA, apply appropriate Fluid Mineral RDFs (Appendix B [of the 2015 Final EIS]) to surface development.  <b>GHMA:</b> —.	<b>C-MSE-2: PHMA:</b> Same as Alternative B.	<b>D-MSE-2: PHMA:</b> Where the federal government owns the surface, and the mineral estate is in non-federal ownership in PHMA, recommend to the state regulatory entity to apply a timing restriction stipulation, COAs, and restrict activities within 3 km (1.86 miles) of an occupied lek, when concurring to the approval of authorizations for mineral-related surface disturbance on lands in PHMA.  <b>IHMA:</b> Where the federal government owns the surface, and the mineral estate is in non-federal ownership in IHMA, recommend to the state regulatory agency to apply a timing restriction stipulation and restrict activities within 3 km (1.86 miles) of an occupied lek, when concurring to the approval of authorizations for mineral-related surface disturbance on lands in IHMA.  <b>GHMA:</b> Recommend to the state regulatory agency to apply a timing restriction stipulation and restrict activities within 3 km (1.86 miles) of an occupied lek, when concurring to the approval of authorizations for mineral-related surface disturbance on lands in GHMA.	<b>E-MSE-2: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-MSE-2: PHMA:</b> Same as Alternative B.  <b>GHMA:</b> —.  <b>RHMA:</b> —.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<b>ACECs</b>					
<b>A-SD-1:</b> No existing ACECs include Greater Sage-Grouse as a relevant and important value. The acres of existing ACECs are shown in Table 2-9.  Montana BLM: No existing ACECs include Greater Sage-Grouse as a relevant and important value. Maintain designation of existing ACECs, including 35,361 acres overlapping PPH and 1,476 acres overlapping PGH.	<b>B-SD-1: PHMA:</b> Same as Alternative A (see Table 2-9).  <b>GHMA:</b> Same as Alternative A.	<b>C-SD-1: PHMA:</b> Designate and manage ACECs (BLM) and Greater Sage-Grouse Zoological Areas (Forest Service) to function as sagebrush reserves to conserve Greater Sage-Grouse (see Table 2-9).	<b>D-SD-1: PHMA:</b> Same as Alternative A (see Table 2-9).  <b>IHMA:</b> Same as Alternative A.  <b>GHMA:</b> Same as Alternative A.	<b>E-SD-1: Idaho – Common to All Habitats:</b> Same as Alternative A (see Table 2-9).  <b>Montana Habitat:</b> Same as Alternative A.  <b>Utah Habitat:</b> Same as Alternative A.	<b>F-SD-1, Sub-alternative 1: PHMA:</b> Designate and manage all PPH as ACECs (BLM) and Greater Sage-Grouse Zoological Areas (Forest Service) to function as sagebrush reserves to conserve Greater Sage-Grouse (see Table 2-9).  <b>F-SD-1, Sub-alternative 2: PHMA:</b> Designate and manage a system of ACECs (BLM) and Greater Sage-Grouse Zoological Areas (Forest Service) to function as sagebrush reserves to conserve Greater Sage-Grouse (see Table 2-9). This area is a subset of the acreage under sub-alternative 1.
<b>A-SD-2:</b> —.	<b>B-SD-2: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-SD-2: PHMA:</b> Industrial solar projects will be prohibited in ACECs and occupied habitats.	<b>D-SD-2: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-SD-2: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-SD-2: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-SD-3:</b> —.	<b>B-SD-3: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-SD-3: PHMA:</b> New transmission corridors, ROWs for corridors (oil, gas, water/aquifer mining), and communication or other towers are prohibited in ACECs and occupied habitats.	<b>D-SD-3: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-SD-3: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-SD-3: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-SD-4:</b> —.	<b>B-SD-4: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-SD-4: PHMA:</b> BLM and Forest Service will strive to acquire important private lands in BLM-designated ACECs and Forest Service Sage-Grouse Special Areas.	<b>D-SD-4: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-SD-4: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-SD-4: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-SD-5:</b> —.	<b>B-SD-5: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-SD-5: PHMA:</b> Existing designated corridors in BLM ACECs and Forest Service Special Areas may be accessed for maintenance.	<b>D-SD-5: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-SD-5: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-SD-5: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.
<b>A-SD-6:</b> —.	<b>B-SD-6: PHMA:</b> —.  <b>GHMA:</b> —.	<b>C-SD-6: PHMA:</b> Agencies will explore options to amend, cancel, or buy out leases in ACECs and occupied habitats.	<b>D-SD-6: PHMA:</b> —.  <b>IHMA:</b> —.  <b>GHMA:</b> —.	<b>E-SD-6: Idaho – Common to All Habitats:</b> —.  <b>Utah Habitat:</b> —.	<b>F-SD-6: PHMA:</b> —.  <b>GHMA:</b> —.  <b>RHMA:</b> —.



# Chapter 3. Affected Environment

## 3.1 INTRODUCTION

The purpose of this chapter is to describe the existing biological, physical, and socioeconomic characteristics of the planning area, including human uses that could be affected by implementing the alternatives described in **Chapter 2**. The affected environment provides the context for assessing the potential impacts described in **Chapter 4**. The resource topics in this chapter reflect those that are identified in **Table 1-1** as corresponding to an issue carried forward for detailed analysis in the 2015 (**Table 3-1**) and the 2019 planning processes.

The BLM analyzed the management situation in full compliance with its regulations and policies. The BLM evaluated inventory and other data and information, partnering with USGS and coordinating extensively with States, to help provide a basis for formulating reasonable alternatives. The BLM described this process in its Report to the Secretary in response to SO 3353 (Aug. 4, 2017). Among other things, the Report describes how the BLM coordinated “with each State to gather information related to the [Secretary’s] Order, including State-specific issues and potential options for actions with respect to the 2015 Greater Sage-Grouse Plans and IMs to identify opportunities to promote consistency with State plans.” (Report to the Secretary at 3.)

The geographic extent of this environmental analysis is the same as that in the 2015 Final EIS. The BLM acknowledges that there have been changes to the landscape since 2015; however, because this analysis covers nearly 12 million acres of BLM-administered lands and approximately 36.5 million (subsurface) acres of federal mineral estate, and additional federal, state, and private lands, the data collected consistently across the range indicate that the extent of these changes is relatively minimal. For example, BLM monitoring data collected and analyzed annually at the biologically significant unit (BSU) scale, as outlined in the Greater Sage-Grouse Monitoring Framework (Appendix D of the 2015 ARMPA/ROD), indicate that there has been a less than 1 percent range-wide overall increase in estimated disturbance from 2015 through 2017. Moreover, there has been an overall decrease of less than 1 percent range-wide from 2012 through 2015 in sagebrush availability in PHMA within BSUs.

### ***Planning Area Overview – Description of the Planning Area and Current Management***

In general, Greater Sage-Grouse habitats in Idaho are composed of a variety of species and subspecies of sagebrush, including mountain big sagebrush, Wyoming big sagebrush, Great Basin big sagebrush, low sagebrush, black sagebrush, three-tip sagebrush, and early sagebrush. Conifer encroachment into Greater Sage-Grouse habitats, mainly from Utah juniper and western juniper, occurs primarily in south-central and southwestern Idaho, although encroachment of Douglas-fir and other conifers also occurs at higher elevations. Large areas of native, introduced, or mixed native/introduced perennial grasslands as well as annual grasslands are also present in portions of the Snake River Plain in southern Idaho as a result of recent wildfires and associated rehabilitative efforts or from other rangeland seeding efforts during the 20th century. The general condition and trend of habitats on BLM-administered lands is a result of various threats that are currently occurring or that have occurred historically. In Idaho, threats to Greater Sage-Grouse were ranked by an independent science panel and addressed in the Conservation Plan for the Greater Sage-Grouse in Idaho (Idaho Sage-grouse Advisory Committee

2006). Highest ranking threats, in order of relative score, included wildfire, infrastructure, annual grasslands, livestock impacts, human disturbance, and West Nile virus.

In 2006, the WAFWA used floristic characteristics to organize the diverse sagebrush habitat areas into seven Greater Sage-Grouse management zones within the species' distribution (Stiver et al. 2006). Idaho contains portions MZs II and IV. The vast majority of Idaho lies within WAFWA's Greater Sage-Grouse MZ IV (Stiver et al. 2006); a small portion of southeastern Idaho occurs within MZ II and is associated with the Wyoming Basin population. Populations of Greater Sage-Grouse in MZ IV are projected to decline by 55 percent from 2007 to 2037 and by 66 percent in MZ II if current trends in populations and habitat activities continue (USFWS 2010a; Garton et al. 2011).

Greater Sage-Grouse populations have declined range-wide since the late 1800s (USFWS 2010, p. 13921). More recently, Connelly et al. (2004) reported long-term declines (1965 to 2004) for Greater Sage-Grouse in MZs II and IV. WAFWA (2008) reported declines from 1965 to 2007 of 2.7 percent in MZ II and 3.8 percent, in MZ IV. Garton et al. (2011) reported annual rates of decline of 3.5 percent in MZ II and 4 percent in MZ IV.

### **USGS Reports**

As part of the consideration of whether to amend some, all, or none of the 2015 Greater Sage-Grouse land use plans, the BLM requested the USGS to develop an annotated bibliography of Greater Sage-Grouse science published since January 2015 (Carter et al. 2018) and a report that synthesizes and outlines the potential management implications of this new science (Hanser et al. 2018).

Following the 2015 ROD/ARMPAs, the scientific community has continued to improve the knowledge available to inform management actions and an overall understanding of Greater Sage-Grouse populations, habitat requirements, and their response to human activity. The review discussed the science related to six major topics identified by USGS and BLM, as follows:

- Multiscale habitat suitability and mapping tools
- Discrete human activities
- Diffuse activities
- Fire and invasive species
- Restoration effectiveness
- Population estimation and genetics

#### *Multiscale Habitat Suitability and Mapping Tools*

The science developed since 2015 corroborates previous knowledge about Greater Sage-Grouse habitat selection. Advances in modeling and mapping techniques at the landscape scale can help inform allocations and targeting of land management resources to benefit Greater Sage-Grouse conservation. Similar improvements at the site scale facilitate a better understanding of the importance of grass height to nest success, which indicates the potential need for a reevaluation of the existing habitat objectives (Hanser et al. 2018, p. 2).

The BLM has completed a plan maintenance action whereby the agency has clarified its ability to modify the habitat objective indicator values based upon local, site-specific information.

#### *Discrete Human Activities*

The science developed since 2015 corroborates prior knowledge about the impact of discrete human activities on Greater Sage-Grouse. New science suggests that strategies to limit surface disturbance may be successful at limiting range-wide population declines; however, it is not expected to reverse the declines, particularly in areas of active oil and gas operations (Hanser et al. 2018, p. 2). This information may have relevance when considering the impact of changes to management actions designed to limit discrete disturbances.

#### *Diffuse Activities*

The science developed since 2015 does not appreciably change prior knowledge about diffuse activities, such as livestock grazing, predation, hunting, wild horses and burros, fences, recreation, and noise; however, some study authors questioned current assumptions, provided refinements, or corroborated existing understanding.

Studies have shown that the impacts of livestock grazing vary with grazing intensity and season. Predation from ravens can limit Greater Sage-Grouse populations in areas with overabundant predator numbers or degraded habitats. Applying predator control has potential short-term benefits in small, declining populations; however, reducing human subsidies may be necessary to generate long-term changes in raven numbers. This is because raven control has produced only short-term declines in local raven populations.

Refinements to the current hunting seasons used by State wildlife agencies may minimize potential impacts on Greater Sage-Grouse populations; however, none of the studies singled out current application of hunting seasons and timings as a plausible cause for Greater Sage-Grouse declines.

Finally, no new insights into the impacts of wild horses and burros, fence collision, recreation, or noise on Greater Sage-Grouse have been developed (Hanser et al. 2018, p. 2).

This information was considered when determining the 2018 scoping issues addressed in **Chapter 1, Section 1.4.1**.

#### *Fire and Invasive Species*

Science since 2015 indicates that wildfire will continue to threaten Greater Sage-Grouse through loss of available habitat, reductions in multiple vital rates, and declining population trends, especially in the western part of its range. The concepts of resilience after wildfire and resistance to invasion by nonnative annual grasses have been mapped across the sagebrush ecosystem. These concepts inform restoration and management strategies and help prioritize application of Greater Sage-Grouse management resources (Hanser et al. 2018, p. 2).

#### *Restoration Effectiveness*

Since 2015, tools have been developed to help managers strategically place and design restoration treatments where they will have the greatest benefit for Greater Sage-Grouse. Studies (Hanser et al. 2018, p. 3) indicate that Greater Sage-Grouse populations did not benefit from, or were negatively affected by, prescribed fire and mechanical sagebrush removal.

Restoration activities occur mainly at the implementation level (project or site-specific implementation), and the BLM maintains the flexibility to incorporate new tools in the agency's project planning for restoration actions.

#### *Population Estimation and Genetics*

The accuracy of estimating Greater Sage-Grouse populations has increased. This is because of improved sampling procedures used to complete count surveys at leks and the development of correction factors for potential bias in lek count data. In addition, techniques have also improved to map Greater Sage-Grouse genetic structure at multiple spatial scales. These genetic data are used in statistical models to increase understanding of how landscape features and configuration affect gene flow. This understanding emphasizes the importance of maintaining connectivity between populations to ensure genetic diversity and distribution (Hanser et al. 2018, p. 3).

New information continues to reaffirm BLM's understanding that Greater Sage-Grouse is a species that selects for large, intact landscapes and habitat patches.

#### ***New Science and Information Considered by the BLM***

After reviewing comments on the DSEISs, the BLM identified that best available science and the role of the NTT and COT reports in planning were reoccurring comment themes from the public. This heightened interest from commenters prompted the BLM to conduct a thorough review of new science and other information received during the DSEIS comment period. These articles and professional scientific papers were published subsequent to the USGS report that reviewed the new science published between January 1, 2015 and January 25, 2018.

The objective of the BLM's review effort was to assess whether any information and scientific literature identified by the public during the DSEIS comment period and any new scientific papers that were not included in the previous USGS science review would change the scope (i.e., issues, alternatives, and effects) of the 2019 planning process or conflict with the sage-grouse conservation measures in the NTT and COT Reports.

At regular intervals, the BLM has assessed and synthesized new science, using it to inform efforts to better align its management with state and local frameworks. The BLM first initiated its own assessment through the NTT as described above, followed by the USFWS efforts to develop the COT report. The BLM then commissioned a second synthesis from USGS in 2017 prior to initiating the 2019 planning process. Finally, the BLM coordinated with USGS in 2020 to review scientific literature presented during the DSEIS comment period. The USGS has continuously evaluated science published after 2018 and has maintained an annotated bibliography of scientific research on greater sage-grouse. The BLM relied upon USGS' annotated bibliography for the 2020 review. Out of the 75 articles considered by the BLM as new science, USGS had already reviewed 67 articles. BLM biologists summarized the remaining eight papers submitted by the public for validation. The BLM also accepted and reviewed comments that provided background information. These comments did not provide management recommendations or rigorous science-based information.

After the documents were reviewed and summarized, a team of BLM biologists and land use planners reviewed each summary to determine if the findings provided management recommendations that: 1)

conflicted with the NTT and COT report recommendations; or 2) changed the scope (i.e., issues, alternatives, effects) of the 2019 plans resulting in a need for a new planning effort.

The BLM found that the most up-to-date Greater Sage-Grouse science and other information has incrementally increased, and built upon, the knowledgebase of Greater Sage-Grouse management evaluated by the BLM most recently in its 2019 land use plan amendments, but does not change the scope or direction of the BLM's management. While the NTT, the COT and this new science and information remain thus consistent with the scope of the 2019 planning decisions, new science does suggest adaptations to management may be warranted at site-specific scales.

The scientists and managers that authored the COT and NTT reports could not have anticipated all the variables that would affect sage grouse into the future when they provided their recommendations. Varying topographic factors, ecological site potential, changes in methodologies, technological advances, variation in vegetation types, and anthropogenic disturbance, to name a few, make it difficult to adequately address all factors that affect sage grouse populations and habitat. Therefore, where appropriate, the BLM will consider this science and information through implementation-level NEPA analysis, consistent with its approved land use plans, policies, and regulatory frameworks. This is precisely the approach envisioned by the NTT and COT reports as well as the BLM's decades long planning efforts to address local actions that may affect Greater Sage-Grouse.

### 3.2 RESOURCES AFFECTED

In accordance with **Chapter 1, Section 1.4.1**, the following resources may have potentially significant impacts based on the actions considered in **Chapter 2, Table 3-1**, below, provides a list of issues and affected resource(s), the location of baseline information in the 2015 Final EIS, as well as additional information contained in the 2016 Draft Sagebrush Focal Area Withdrawal EIS (BLM 2016). See the 2015 Final EIS baseline information.

**Table 3-1**  
**Affected Environment Incorporated by Reference**

Issue Number	Issue	Resource Topic
1	Modifying Management Area Designations	Greater Sage-Grouse, Section 3.2, pg. 3-5 (BLM 2015)
2	Sagebrush Focal Area Designations	Mineral Resources, Section 3.12, pg. 3-98 Greater Sage-Grouse, Section 3.2, pg. 3-5 Livestock Grazing, Section 3.8, pg. 3-65 Wild Horse and Burro, Section 3.6, pg. 3-54  In addition to the 2015 Final EIS, additional information can be found in the 2016 Draft Locatable Mineral Withdrawal EIS in Section 2.3.1 (No Action Alternative; page 2-4) and Section 3.4 (Geology and Mineral Resources; page 3-7)
3	Adjusting Disturbance and Density Caps	Greater Sage-Grouse, Section 3.2, pg. 3-5 Mineral Resources, Section 3.12, pg. 3-98 Lands and Realty, Section 3.11, pg. 3-84 Socioeconomics, Section 3.22, pg. 3-164

Issue Number	Issue	Resource Topic
4	Modifying Lek Buffers	Greater Sage-Grouse, Section 3.2, pg. 3-5 Mineral Resources, Section 3.12, pg. 3-98 Lands and Realty, Section 3.11, pg. 3-84 Socioeconomics, Section 3.22, pg. 3-164 Livestock Grazing, Section 3.8, pg. 3-65 Recreation, Section 3.9, pg. 3-71
5	Including Waivers, Exceptions, and Modifications on NSO Stipulations	Greater Sage-Grouse, Section 3.2, pg. 3-5 Mineral Resources (fluids), Section 3.12, pg. 3-98
6	Changing Requirements for Design Features	Greater Sage-Grouse, Section 3.2, pg. 3-5 Mineral Resources, Section 3.12, pg. 3-98 Lands and Realty, Section 3.11, pg. 3-84 Socioeconomics, Section 3.22, pg. 3-164 Livestock Grazing, Section 3.8, pg. 3-65
7	Modifying Habitat Objectives	Greater Sage-Grouse, Section 3.2, pg. 3-5
8	Modifying Livestock Grazing Commensurate with the Threat Posed	Livestock Grazing, Section 3.8, pg. 3-65 Greater Sage-Grouse, Section 3.2, pg. 3-5
9	Modifying the Mitigation Strategy to Align with the State Mitigation Strategy, including Standard for No Net Loss	Greater Sage-Grouse, Section 3.2, pg. 3-5 Mineral Resources, Section 3.12, pg. 3-98 Lands and Realty, Section 3.11, pg. 3-84 Socioeconomics, Section 3.22, pg. 3-164 Livestock Grazing, Section 3.8, pg. 3-65 Recreation, Section 3.9, pg. 3-71

### 3.3 GREATER SAGE-GROUSE

The existing condition of Greater Sage-Grouse in the planning area is described in the 2015 Final EIS in Section 3.2 (pp. 3-5 through 3-23). Since 2015, designated Greater Sage-Grouse habitat in Idaho has been managed according to the 2015 ROD/ARMPA. In 2015, the Greater Sage-Grouse Approved Resource Management Plan Amendment (2015 ROD/ARMPA) designated approximately 8,809,326 acres of Greater Sage-Grouse habitat management areas (BLM only) with 4,177,624 acres of PHMA, 2,675,251 acres of IHMA, and 1,956,451 acres of GHMA. The 2015 ROD/ARMPA also used a key habitat map to identify areas with at least 10 percent sagebrush canopy cover, and in 2015 there were approximately 9,158,175 acres mapped as key habitat. The total acres of key habitat on BLM-administered land (acres with estimated 10 percent sagebrush cover) in Idaho has decreased an estimated 53,379 acres from 5,164,998 in 2015 to 5,111,619 at the end of 2017.

In 2015 the Soda Fire burned 279,144 acres, 228,077 acres of which were in Idaho. The West Owyhee Conservation Area lost approximately 5 percent (approximately 74,127 acres) of its priority habitat BSU and approximately 21 percent (approximately 63,383 acres) of its important habitat BSU. This resulted in a hard trigger being tripped; currently all of the IHMA within the West Owyhee Conservation Area is being managed as PHMA, as per the 2015 ROD/ARMPA.

On Aug. 8, 2018 Idaho Department of Fish and Game Idaho informed Idaho BLM of Greater Sage-Grouse population declines. The declines include two “hard trigger” population trips, in the Mountain Valley PHMA and Desert IHMA. Idaho Fish and Game also detected hard trigger population trips in 2019 for the Desert (PHMA) Southern (PHMA) Conservation Areas. Currently, the reasons for the declines are unknown. These tripped triggers initiated an adaptive management response, as described in the 2015 ARMPA (the 2018 Final EIS carried the 2015 hard trigger adaptive management strategy

forward unchanged). The response includes managing all IHMA in the conservation area as PHMA and convening the interagency adaptive management team to conduct a causal factor analysis of the population declines. The BLM will work closely with IDFG and other partners to work through processes in place to address the situation and take appropriate actions to reverse the trigger.

BLM Idaho continues to implement the 2015 Adaptive Management Strategy as the foundation for addressing recent population declines. The 2015 Decision anticipated possible declining habitat and populations and included a strategy for BLM and partners to: identify declines, determine the cause, and take action to address the causal factors. This process was carried forward into the 2019 Decision and is working as anticipated.

### **Wildland Fire**

Wildfire was identified and considered as a primary threat to Greater Sage-Grouse habitat within the Great Basin in the 2015 Final EIS (Wildland Fire Management, Section 3.7, pp. 3-57 through 3-65). Ongoing efforts for fuel treatments are described in Executive Order 13855, *Promoting Active Management of America's Forests, Rangelands, and other Federal Lands to Improve Conditions and Reduce Wildfire Risk* (December 21, 2018), and Secretary's Order 3372, *Reducing Wildlife Risks on Department of Interior Land through Active Management* (January 2, 2019), which provide direction to the BLM to address wildfire prevention and suppression, which the BLM has implemented by setting ambitious fuel treatment targets to protect and restore sagebrush ecosystems.

Between 2015 and 2017 wildfires burned approximately 129,842 acres of key habitat and 534,744 acres of Greater Sage-Grouse habitat (160,520 acres of priority habitat, 240,079 acres of important habitat, and 134,145 acres of general habitat). Since 2015, the BLM has completed 431,295 acres of treatments to restore or improve potential Greater Sage-Grouse habitat. Since the 2015 ROD/ARMPA, more habitat has been lost to wildfire than has been gained through treatment; however, the BLM intends to implement more habitat improvements per decisions in the 2015 ROD/ARMPA. Projects such as the Great Basin Ecosystem Strategy, under which two programmatic EISs will be prepared for fuel breaks and fuels reduction and rangeland restoration, will further define the tools and priorities for these activities.

Between 2017 and September 2018 approximately 238,588 acres of key habitat burned in Idaho. In 2019 55,000 acres of Key habitat burned in Idaho. Idaho BLM treated approximately 140,000 acres of Greater Sage-Grouse habitat in 2018. Although 2019 was a slow fire year, Idaho continued to address this threat by treating 208,000 acres. The same area may receive multiple treatments, but even when treatments are successful it may take years before an area returns to being key habitat.

## **3.4 LANDS AND REALTY**

The condition of land use and realty in the planning area is described in the 2015 Final EIS in Section 3.11 (Lands and Realty, pp. 3-84 through 3-98). Land use authorization requests are customer driven. In the planning area most authorizations processed are primarily for roads, electric distribution lines, and communications sites. Major ROWs are those large-scale utility projects, such as for 500 kV electric transmission, wind, and solar development. The BLM has received a number of applications for major transmission line projects to traverse the state; it has not received any applications for utility-scale solar production in the planning area, nor are there solar resources comparable to the areas where utility-scale solar production projects are being proposed or built.

Since 2015, lands and realty actions were authorized, following the 2015 ROD/ARMPA direction. Management for the lands and realty program is described in Sections 2.2.1 and 2.2.8 of the 2015 ROD/ARMPA. The BLM continues to manage the lands and realty program following the management direction in the 2015 decision. Since September 2015, the Idaho BLM has issued 97 new ROWs and has 123 ROWs pending approval. The lands and realty program is essentially the same as was described in the 2015 Final EIS, and the program's impacts on Greater Sage-Grouse are also essentially the same.

### **3.5 MINERALS**

The existing conditions of minerals development in the planning area are described in the 2015 Final EIS in Section 3.12.1 for fluid leasable minerals (pp. 3-98 through 3-103), mineral materials (pp. 3-103 through 3-106), locatable minerals (pp. 3-106 through 3-111), and trends (pp. 3-112 through 3-117). The management of minerals is described in Sections 2.2.1 and 2.2.6. In addition, this Proposed RMPA/EIS incorporates resources affected by the 2016 Draft SFA Withdrawal EIS completed for the mineral withdrawal recommendation (Chapter 3, Section 3.4, Geology and Mineral Resources, p. 3-7 and Chapter 2, Section 2.3.1, No Action Alternative, p. 2-4 [BLM 2016]).

Little has changed in minerals development in Idaho since 2015. Most notably there is now one producing natural gas well near Weiser. This natural gas well is on private land but is removing some gas from adjacent leased public land. The public land is not designated as Greater Sage-Grouse habitat. The geothermal power plant in the Raft River Valley in Idaho has also expanded onto public land in GHMA. One new phosphate mine plan was approved in Idaho since 2015. Additionally, only four new free use (county use) mineral material pits have been authorized in Idaho since 2015. Based on these minimal changes, the existing conditions are essentially the same as described in the 2015 Final EIS.

### **3.6 LIVESTOCK GRAZING**

The existing condition of livestock grazing in the planning area is described in the 2015 Final EIS in Section 3.8 (pp. 3-65 through 3-71). Since 2015, the BLM has continued to manage livestock according to the grazing regulations (43 CFR 4100) and in Sections 2.2.1 and 2.2.4 of the 2015 ROD/ARMPA. In general, the existing conditions of livestock grazing in Idaho remain the same as described in the 2015 Final EIS. The BLM has continued to issue grazing permit renewals consistent with the 2015 ARMPA. Since September 2015, the Idaho BLM has issued 69 grazing permits.

### **3.7 SOCIOECONOMICS**

The socioeconomic conditions in the planning area are described in the 2015 Final EIS in Section 3.22 (pp. 3-164 through 3-200). BLM-administered lands provide a range of goods and services that benefit society in a variety of ways. Some of these goods and services, such as timber and minerals, are bought and sold in markets and hence have a readily observed economic value (as documented in the sections above); others have a less clear connection to market activity, even though society derives benefits from them. In some cases, goods and services have both a market and a nonmarket component value to society. The socioeconomic conditions in Idaho are essentially the same as described in the 2015 Final EIS.

### **3.8 WILD HORSES AND BURROS**

The condition of wild horses and burros in the planning area is described in the 2015 Final EIS in Section 3.6 (pp. 3-54 through 3-57). In the planning area, the BLM manages six herd management areas, all in Idaho: four in the Boise District, one in the Twin Falls District, and one in the Idaho Falls District. The



herd management areas encompass approximately 361,900 acres of BLM-administered lands. The Idaho BLM continues to manage wild horses in AML statewide. In 2015, the Hardtrigger, Black Mountain, and Sand Basin Herd Management Areas were burned in the Soda Fire, and horses were gathered off these herd management areas until vegetation had recovered sufficiently to provide reliable forage. The BLM also gathered horses in the Challis Herd Management Area in 2017. The horses gathered after the Soda Fire were returned to those herd management areas in 2018; this is because monitoring data has shown that the vegetation has recovered sufficiently to provide reliable forage and would continue to be managed according to the applicable regulations and the 2015 ROD/ARMPA.

### **3.9 RECREATION**

The condition of recreation in the planning area is described in the 2015 Final EIS in Section 3.9 (pp. 3-71 through 3-78). Currently recreation in Idaho remains essentially the same as described in the 2015 Final EIS and is managed as described in the 2015 ROD/ARMPA. In 2012, the BLM had 341 active special recreation permits. Of those permits, 241 were commercial river permits and 24 were commercial big game hunting permits. The remaining permits were for organized groups, competitive events, or other types of commercial recreation outfitters, such as bike tours. The Idaho BLM has continued to issue special recreation permits at levels commensurate with the 2015 numbers. The Idaho BLM's biggest recreation undertaking, after the signing the 2015 ARMPA, has been in travel management planning. It initiated six travel plans on the Boise District, five plans on the Idaho Falls District, and two plans on the Twin Falls District.

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# Chapter 4. Environmental Consequences

## 4.1 INTRODUCTION

This chapter presents the direct, indirect, and cumulative impacts on the environment from implementing the alternatives in **Chapter 2**. The purpose of this chapter is to describe to the decision-maker and the public the differences between the entire range of alternatives considered in 2018, including the 2018 Draft Plan (Management Alignment Alternative), the 2018 Proposed Plan Amendment, as well as the range of alternatives incorporated by reference from the 2015 plan amendments. It is meant to clarify that Greater Sage-Grouse management was comprehensively analyzed in 2018 through multiple NEPA and planning processes.

The impact analyses and conclusions are based on the following:

- The BLM planning team's knowledge of resources and the planning area
- Literature reviews
- Information provided by experts in the BLM, other agencies, cooperating agencies, interest groups, and concerned citizens

The baseline used for the impact analysis is the current condition or situation, as described in **Chapter 3**. Impacts on resources and resource uses are analyzed and discussed in detail, commensurate with resource issues and concerns identified through the process. At times, impacts are described in qualitative terms or using ranges of potential impacts.

This SEIS describes more explicitly the full range of alternatives that the BLM has evaluated, summarizing each action alternative contained in the 2015 and 2018 EISs.

## 4.2 ANALYTICAL ASSUMPTIONS

Several overarching assumptions were made during the 2019 planning process in order to facilitate the analysis of the impacts. These assumptions set guidelines and provide reasonably foreseeable projected levels of development that would occur in the planning area during the planning period.

In 2012 Governor C. L. "Butch" Otter proposed an approach that divided Greater Sage-Grouse habitat in Idaho into three MZs. These three zones provide a management continuum, where the highest priority habitats have the most protections and the lowest priority habitats have the fewest protections and the most flexibility for multiple use management. This approach allows land management agencies to focus future disturbance in lower quality habitat or non-habitat areas.

In the 2015 Final EIS, the BLM adopted this strategy and identified the habitat MZs as PHMA, IHMA, and GHMA; The 2012 Governor's plan uses the terminology of core habitat zone, important habitat zone, and general habitat zone; these are equivalent to PHMA, IHMA, and GHMA, respectively. These MZs were developed based on their overall importance to Greater Sage-Grouse, considering the densities of breeding birds, habitat quality and connectivity as a result of decades of research and monitoring. PHMA contains approximately 67 percent of known occupied leks in Idaho, IHMA contains 25 percent, and GHMA contains 6 percent.

The following general assumptions apply to the analysis in the 2018 Final EIS; any specific resource assumptions are provided in the methods of analysis section for that resource:

- Sufficient funding and personnel would be available for implementing the final decision
- Implementation-level actions necessary to execute the RMP-level decisions would be subject to further environmental review, including that under NEPA
- Direct and indirect impacts of implementing the planning alternatives would primarily occur on public lands administered by the BLM in the planning area
- The BLM would carry out appropriate maintenance for the functional capability of all developments
- The discussion of impacts is based on best available data; knowledge of the planning area and decision area and professional judgment, based on observation and analysis of conditions and responses in similar areas, are used for environmental impacts where data are limited
- Restrictions (such as siting, design, and mitigation measures) would apply, where appropriate, to surface-disturbing activities associated with land use authorizations and permits issued on BLM-administered lands and federal mineral estate
- Geographic information system data have been used in developing acreage calculations and to generate the figures in this FSEIS. Calculations depend on the quality and availability of data. Acreage figures and other numbers are approximate projections for comparison and analysis only; readers should not infer that they reflect exact measurements or precise calculations. In the absence of quantitative data, best professional judgment was used. Impacts were sometimes described using ranges of potential impacts, or they were described qualitatively, when appropriate.

**Table 4-1**, below, shows where the effects analysis can be found in the 2015 Final EIS or, where noted, the 2016 Draft Sagebrush Focal Area Withdrawal EIS (BLM 2016). Resource topics displayed below are the resource topics identified in **Table 1-1** as potentially being affected by the issues. This table is included to help the reader track issues and resource topics.

**Table 4-1**  
**Environmental Consequences Incorporated by Reference**

Potentially Impacted Resource Topic	Location in 2015 Final EIS	Related Issues Tracking
Greater Sage-Grouse	Section 4.2: Sage-Grouse and Sage-Grouse Habitat, pg. 4-5 Section 4.5, Wildlife, Including Special Status Species and Greater Sage-Grouse, pg. 4-82 (BLM 2016)	1-9
Minerals and Energy	Section 4.9, Leasable Minerals (Leased and Unleased), Including Fluid Minerals and Nonenergy Solid Leasable Minerals, pg. 4-224  Section 4.10, Locatable Minerals, pg. 4-249  Section 4.11, Mineral Materials (Salable), pg. 4-254  Section 4.12, Nonenergy Leasable Minerals, pg. 4-259 Section 4.2, Geology and Mineral Resources, pg. 4-7 (BLM 2016)	2, 3, 4, 5, 6, 9

Potentially Impacted Resource Topic	Location in 2015 Final EIS	Related Issues Tracking
Land Use and Realty	Section 4.8, Lands and Realty: pg. 4-208	4, 6, 9
Socioeconomics	Section 4.15, Social and Economic Conditions (Including Environmental Justice), pg. 4-290 Section 4.3, Social and Economic, pg. 4-20 (BLM 2016)	3, 4, 6, 9
Livestock Grazing	Section 4.6, Livestock Grazing/Range Management, pg. 4-173	2, 4, 6, 8, 9
Wild Horses and Burros	Section 4.4.10, pgs. 4-151–4-154	2,
Recreation	Section 4.8.3, pg. 4-211 Section 4.6.3, pg. 4-179 Section 4.4.3, pg. 4-142 Section 4.5.2, pg. 4-159	4, 9

### 4.3 IMPACTS OF THE 2018 PROPOSED RMPA/FINAL EIS NO-ACTION ALTERNATIVE

The impacts of the 2018 Proposed RMPA/Final EIS No-Action Alternative, or current management, were analyzed as the Proposed Plan in the 2015 Final EIS; therefore, impacts from implementing the No-Action Alternative in 2018 were the same as those analyzed in the 2015 Final EIS. As Stated in the Final EIS “The Proposed Plan would provide a higher level of Greater Sage-Grouse habitat protection compared to current management, while allowing flexibility for resource uses when there would be no impacts to Greater Sage-Grouse (Section 5.1.11).”

**Table 4-2**, below, shows where information on the impacts of the 2018 Proposed RMPA/Final EIS No-Action Alternative can be found.

**Table 4-2**  
**Environmental Consequences for the No-Action Alternative Incorporated by Reference**

Decision Topic	Related Resource Topic	Location in 2015 Final EIS or 2016 Draft Sagebrush Focal Area Withdrawal EIS
Modifying habitat management area boundaries	Greater Sage-Grouse	Section 4.2, Sage-Grouse and Sage-Grouse Habitat, pg. 4-5 Section 4.5, Wildlife, Including Special Status Species and Greater Sage-Grouse, pg. 4-82 (BLM 2016)
Removing sagebrush focal area designations	Greater Sage-Grouse	Section 4.2, Sage-Grouse and Sage-Grouse Habitat, pg. 4-5 Section 4.5, Wildlife, Including Special Status Species and Greater Sage-Grouse, pg. 4-82 (BLM 2016)
	Minerals and Energy	Section 4.9, Leasable Minerals (Leased and Unleased), Including Fluid Minerals and Nonenergy Solid Leasable Minerals, pg. 4-224 Section 4.10, Locatable Minerals, pg. 4-249 Section 4.11, Mineral Materials (Salable), pg. 4-254 Section 4.12, Nonenergy Leasable Minerals, pg. 4-259 Section 4.2, Geology and Mineral Resources, pg. 4-7 (BLM 2016)
	Livestock Grazing	Section 4.6, Livestock Grazing/Range Management, pg. 4-173
	Wild Horse and Burro	Section 4.4.10, pgs. 4-151–4-154
Adjusting disturbance and density caps	Greater Sage-Grouse	Section 4.2, Sage-Grouse and Sage-Grouse Habitat, pg. 4-5 Section 4.5, Wildlife, Including Special Status Species and Greater Sage-Grouse, pg. 4-82 (BLM 2016)

<b>Decision Topic</b>	<b>Related Resource Topic</b>	<b>Location in 2015 Final EIS or 2016 Draft Sagebrush Focal Area Withdrawal EIS</b>
Adjusting disturbance and density caps (continued)	Minerals and Energy	Section 4.9, Leasable Minerals (Leased and Unleased), Including Fluid Minerals and Nonenergy Solid Leasable Minerals, pg. 4-224 Section 4.10, Locatable Minerals, pg. 4-249 Section 4.11, Mineral Materials (Salable), pg. 4-254 Section 4.12, Nonenergy Leasable Minerals, pg. 4-259 Section 4.2, Geology and Mineral Resources, pg. 4-7 (BLM 2016)
	Socioeconomics	Section 4.15, Social and Economic Conditions (Including Environmental Justice), pg. 4-290 Section 4.3, Social and Economic, pg. 4-20 (BLM 2016)
	Lands and Realty	Section 4.8, Lands and Realty, pg. 4-208
Modifying lek buffers	Greater Sage-Grouse	Section 4.2, Sage-Grouse and Sage-Grouse Habitat, pg. 4-5 Section 4.5, Wildlife, Including Special Status Species and Greater Sage-Grouse, pg. 4-82 (BLM 2016)
	Minerals and Energy	Section 4.9, Leasable Minerals (Leased and Unleased), Including Fluid Minerals and Nonenergy Solid Leasable Minerals, pg. 4-224 Section 4.10, Locatable Minerals, pg. 4-249 Section 4.11, Mineral Materials (Salable), pg. 4-254 Section 4.12, Nonenergy Leasable Minerals, pg. 4-259 Section 4.2, Geology and Mineral Resources, pg. 4-7 (BLM 2016)
	Socioeconomics	Section 4.15, Social and Economic Conditions (Including Environmental Justice), pg. 4-290 Section 4.3, Social and Economic, pg. 4-20 (BLM 2016)
	Lands and Realty	Section 4.8, Lands and Realty, pg. 4-208
	Livestock Grazing	Section 4.6, Livestock Grazing/Range Management, pg. 4-173
	Recreation	Section 4.8.3, pg. 4-211; Section 4.6.3, pg. 4-179; Section 4.4.3, pg. 4-142, Section 4.5.2, pg. 4-159
Including waivers, exceptions, and modifications on NSO stipulations	Greater Sage-Grouse	Section 4.2, Sage-Grouse and Sage-Grouse Habitat, pg. 4-5 Section 4.5, Wildlife, Including Special Status Species and Greater Sage-Grouse, pg. 4-82 (BLM 2016)
	Minerals and Energy	Section 4.9, Leasable Minerals (Leased and Unleased), Including Fluid Minerals and Nonenergy Solid Leasable Minerals, pg. 4-224 Section 4.10, Locatable Minerals, pg. 4-249 Section 4.11, Mineral Materials (Salable), pg. 4-254 Section 4.12, Nonenergy Leasable Minerals, pg. 4-259 Section 4.2, Geology and Mineral Resources, pg. 4-7 (BLM 2016)
Changing requirements for design features	Greater Sage-Grouse	Section 4.2, Sage-Grouse and Sage-Grouse Habitat, pg. 4-5 Section 4.5, Wildlife, Including Special Status Species and Greater Sage-Grouse, pg. 4-82 (BLM 2016)
	Land Use and Realty	Section 4.8, Lands and Realty, pg. 4-208
	Minerals and Energy	Section 4.9, Leasable Minerals (Leased and Unleased), Including Fluid Minerals and Nonenergy Solid Leasable Minerals, pg. 4-224 Section 4.10, Locatable Minerals, pg. 4-249 Section 4.11, Mineral Materials (Salable), pg. 4-254 Section 4.12, Nonenergy Leasable Minerals, pg. 4-259 Section 4.2, Geology and Mineral Resources, pg. 4-7 (BLM 2016)
	Socioeconomics	Section 4.15, Social and Economic Conditions (Including Environmental Justice), pg. 4-290 Section 4.3, Social and Economic, pg. 4-20 (BLM 2016)
	Livestock Grazing	Section 4.6, Livestock Grazing/Range Management, pg. 4-173

<b>Decision Topic</b>	<b>Related Resource Topic</b>	<b>Location in 2015 Final EIS or 2016 Draft Sagebrush Focal Area Withdrawal EIS</b>
Modifying habitat objectives	Greater Sage-Grouse	Section 4.2, Sage-Grouse and Sage-Grouse Habitat, pg. 4-5 Section 4.5, Wildlife, Including Special Status Species and Greater Sage-Grouse, pg. 4-82 (BLM 2016)
Modifying decisions for livestock grazing commensurate with the threat posed	Greater Sage-Grouse	Section 4.2, Sage-Grouse and Sage-Grouse Habitat, pg. 4-5 Section 4.5: Wildlife, Including Special Status Species and Greater Sage-Grouse, pg. 4-82 (BLM 2016)
	Livestock Grazing	Section 4.6, Livestock Grazing/Range Management, pg. 4-173
Modifying the mitigation strategy to align with the state mitigation strategy, including standard for no net loss	Greater Sage-Grouse	Section 4.2, Sage-Grouse and Sage-Grouse Habitat, pg. 4-5 Section 4.5, Wildlife, Including Special Status Species and Greater Sage-Grouse, pg. 4-82 (BLM 2016)
	Socioeconomics	Section 4.15, Social and Economic Conditions (Including Environmental Justice), pg. 4-290 Section 4.3, Social and Economic, pg. 4-20 (BLM 2016)
	Livestock Grazing	Section 4.6, Livestock Grazing/Range Management: pg. 4-173
	Minerals and Energy	Section 4.9, Leasable Minerals (Leased and Unleased), Including Fluid Minerals and Nonenergy Solid Leasable Minerals, pg. 4-224 Section 4.10, Locatable Minerals, pg. 4-249 Section 4.11, Mineral Materials (Salable), pg. 4-254 Section 4.12, Nonenergy Leasable Minerals, pg. 4-259 Section 4.2, Geology and Mineral Resources, pg. 4-7 (BLM 2016)
	Land Use and Realty	Section 4.8, Lands and Realty. pg. 4-208
	Recreation	Section 4.8.3, pg. 4-211; Section 4.6.3, pg. 4-179; Section 4.4.3, pg. 4-142; Section 4.5.2, pg. 4-159

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This table is a summary of the environmental consequences of the 2015 alternatives that were incorporated by reference into the 2019 planning effort and considered throughout the process. **Table 4-3**, presents a comparison summary of impacts from management actions proposed for the alternatives considered in 2015.

**Table 4-3**  
**Summary of Environmental Consequences**

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan (2015)
<b>Vegetation (Including Noxious Weeds; Riparian and Wetlands)</b>						
<p>In general, Alternative A would rely on management guidance that would not reflect the most up-to-date science regarding Greater Sage-Grouse, and older land use plans would be implemented that often would lack a landscape-level approach to land planning. However, several LUPs do contain guidance for specific areas that address Greater Sage-Grouse (e.g., Dillon, Pocatello, and Beaverhead-Deerlodge).</p> <p>There is no consistently applied vegetation management across all land use plans, though many incorporate objectives for maintaining, improving, or restoring vegetation communities, particularly sagebrush and riparian and wetland habitats. As a result, there is general direction to preserve and improve vegetation communities; however, discrete anthropogenic disturbances to vegetation, such as road construction, mineral development, and development of ROWs, would continue.</p>	<p>The BLM and Forest Service would manage lands to conserve, enhance, and restore sagebrush ecosystems. Direct protection of sagebrush habitat to support Greater Sage-Grouse would limit or modify uses in this habitat type, improving the acreage and condition of desired vegetation communities. Use restrictions would reduce damage to native vegetation communities and individual native plant species in areas that are important for regional vegetation diversity and quality. Likewise, use restrictions would minimize loss of connectivity and would be more likely to retain existing age class distribution within these specific areas. Use restrictions could also minimize the spread of invasive species by limiting human activities that cause soil disturbance or seed introductions.</p> <p>PHMA and GHMA would be designated and the BLM and Forest Service would apply a three percent anthropogenic disturbance cap on discrete activities in PHMA and would implement numerous conservation measures to reduce impacts from human activities, which would reduce the likelihood for vegetation removal, degradation, or fragmentation, and maintain the acreage and condition of sagebrush vegetation.</p>	<p>The BLM and Forest Service would manage lands to conserve, enhance, and restore sagebrush ecosystems. Management actions would be applied to all occupied Greater Sage-Grouse habitats, a larger area than covered by Alternative B. Management would focus on removing livestock grazing from occupied habitats, with most other management similar to Alternative B.</p>	<p>The BLM and Forest Service would manage lands to conserve, enhance and restore sagebrush ecosystems. Management and impacts would be similar to Alternative B, though Alternative D would incorporate more flexibility and adaptive management to account for sub-regional conditions. PHMA, IHMA, and GHMA would be designated and the BLM and Forest Service would require a no net unmitigated loss of PHMA and IHMA and would implement conservation measures to reduce impacts from human activities in PHMA, which would reduce the likelihood for vegetation removal, degradation, or fragmentation.</p>	<p>The BLM and Forest Service would manage lands to protect, maintain, improve and enhance sagebrush ecosystems. CHZ, IHZ and GHZ would be designated. CHZ would restrict further infrastructure development with narrow exceptions to permit high value infrastructure. This alternative would designate fewer acres of CHZ as compared to Alternatives B, C, D &amp; F designations of PHMA, resulting in fewer acres of sagebrush vegetation preserved from removal, degradation, or fragmentation.</p>	<p>Management under Alternative F would be largely similar to that described for Alternative B, though with more stringent guidance and restrictive management in sagebrush ecosystems. PHMA and GHMA would be the same as for Alternative B.</p> <p>Under Alternative F, RHMA would also be designated. Impacts from implementing the three percent disturbance cap would be similar to those described for Alternative B, but under Alternative F all surface disturbances would count towards the disturbance cap. This would further reduce the acreage of vegetation that would be removed or fragmented within all occupied habitat over the long term.</p>	<p>Management under the Proposed Plan would be similar to that described for Alternative D.</p> <p>Under the Proposed Plan, SFAs would be managed where additional restrictions on resource uses would be applied. Additional measures, such as management to attain vegetation objectives; specified vegetation treatment acres; and a comprehensive mitigation strategy would be implemented and would reduce the likelihood for vegetation removal, degradation, or fragmentation.</p>

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan (2015)
Wild Horse and Burro Management						
<p>All HMAs would continue to be managed for AML and all adjustments would be based on site-specific conditions as reported in monitoring data.</p> <p>Wild horse management would not be based on Greater Sage-Grouse habitat needs. Levels of resource conflict with wild horse would depend on management under individual RMPs.</p> <p>Restrictions on energy and mineral development would be least restrictive under Alternative A, which would result in the greatest impact to horses from energy and mineral development under this alternative.</p>	<p>Under Alternative B vegetation restoration projects to benefit Greater Sage-Grouse would likely improve forage conditions and water quality for wild horses in the long term. Restrictions placed on mineral development could also benefit wild horses and burros by reducing disturbance.</p> <p>Greater Sage-Grouse management requiring increased fences or prohibiting new water development could limit wild horse access to water. Restrictions on transportation would be greater under this alternative than under Alternative A, which could increase the time and costs required to conduct gathers for population control.</p> <p>AMLs and wild horse management could be impacted if found to not align with Greater Sage-Grouse management objectives. However, in general, efforts to improve Greater Sage-Grouse habitat would also improve wild horse rangeland conditions.</p>	<p>Vegetation restoration impacts would be similar under Alternative C to those under Alternative B, but would also remove water developments, which could reduce water availability and result in the need to reduce AML within HMAs in occupied habitat.</p> <p>Livestock grazing would be eliminated under this alternative, resulting in additional forage for wild horses. However, this could also result in reduced water availability through the elimination of livestock watering sites.</p> <p>Restrictions on travel management and energy development would result in impacts similar to those described under Alternative B. Lands and realty management under this alternative would reduce disturbance to wild horses.</p> <p>In general, efforts to improve Greater Sage-Grouse habitat would also improve wild horse rangeland conditions.</p>	<p>Vegetation management under this alternative would likely improve wild horse forage in the long term. AMLs in some HMAs would be reduced if wild horse management was found to conflict with Greater Sage-Grouse objectives. HMA expansion would be prohibited in PHMA, potentially limiting the ability to sustainably manage for increasing horse populations and increasing the need for gathers and cost of the program.</p> <p>Eliminating livestock watering sites could reduce water availability for wild horses and could result in the need to reduce wild horse numbers.</p> <p>Restrictions on transportation, lands and realty, and minerals would result in reduced disturbance to wild horses as compared to Alternative A, but greater disturbance than would be experienced under some of the other action alternatives.</p>	<p>Impacts from vegetation management, wild horse management, and mineral and energy development would be the same as those under Alternative A.</p> <p>Livestock grazing management changes would be applied on a site-specific level and would result in limited impacts to wild horse management. Limitations on new water development could result in a need to reduce AMLs in HMAs where alternative water sources are not available.</p> <p>Restrictions on recreation and lands and realty management could limit disturbance to wild horses.</p>	<p>Under this alternative, AMLs would be directly reduced by 25 percent for all HMAs within PHMA and GHMA, resulting in increased costs for wild horse management due to a need for additional horse gathers and population growth suppression treatments. Under Alternative F, 25 percent of the areas in PHMA and GHMA open to livestock grazing would be rested each year as well, which could reduce the availability of water to wild horses and impact the ability to manage for AML, particularly for HMAs with no alternative water source.</p> <p>Vegetation, wildland fire, and recreation management would have impacts similar to those under Alternative B. Impacts from energy and minerals management would be the same as those under Alternative A.</p>	<p>Under the Proposed Plan restrictions on disturbance would be greatest in SFAs, followed by PHMAs, and IHMAs. This would result in reduced disturbance and additional protections of wild horse forage and water supplies in SFAs, and could result in increased disturbance to wild horses in HMAs within GHMA.</p> <p>Vegetation management would likely improve forage conditions in the long term. Wildland fire management would also be expected to benefit wild horses, though fencing to protect post-burn areas could impact the ability of horses to roam freely and access water. Changes to livestock watering could impact water availability for wild horses and result in the need to reduce wild horse numbers or develop alternative water sources within HMAs.</p> <p>AMLs may be required to change to meet Greater Sage-Grouse habitat objectives. The number of gathers needed may need to be increased along with other intensive management actions to maintain AML, potentially increasing disturbance to populations and the cost of the program.</p>

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan (2015)
Wildland Fire Ecology and Management						
<p>Current impacts would continue and there would continue to be a high risk of human-caused ignitions associated with human uses.</p> <p>Vegetation management and weed treatments would continue to decrease fuels across the planning area, which would decrease the intensity of wildland fires and allow fires to be more easily controlled. Similarly, treatments for habitat improvement and forage would reduce fuels and reduce the likelihood for stand-replacing fire.</p> <p>The wildland fire management program would continue to be impacted by the spread of invasive annuals, which results in a longer fire season and the need for more resources to respond to wildfire. There would also be a continued decrease in the capability of the proactive hazardous fuels reduction program to maintain reactive suppression and rehabilitation efforts in the wildland-urban interface (WUI).</p>	<p>Long-term frequency and intensity of wildland fire would be similar to historic conditions because post fuel and restoration management would be designed to ensure long-term persistence of seeded or pre-burn native plants.</p> <p>Greater Sage-Grouse management in PHMA would focus on fire suppression and limitations on fuels treatments, resulting in higher level of protection from wildland fire, but reduced wildland fire and fuels management options.</p> <p>Managing PHMA so that discrete anthropogenic disturbances cover less than 3 percent of the total PHMA regardless of ownership would decrease the chance of human-caused ignition in PHMA. In addition, managing or restoring PHMA so that at least 70 percent of the land cover provides adequate sagebrush habitat to meet Greater Sage-Grouse needs would promote a shift towards historic fire regimes in sagebrush ecosystems.</p> <p>Limiting OHV travel in PHMA to existing roads and trails until travel management planning is complete, as well as limiting road upgrades or new roads in this area, would reduce the risk of human-caused ignition in PHMA on BLM-administered and Forest Service-administered lands.</p>	<p>Under Alternative C, no livestock grazing would be permitted within occupied Greater Sage-Grouse habitat. As a result, fine fuels would increase throughout occupied habitat and size, intensity, and occurrence of fire would potentially increase. However, because the prohibition on grazing could reduce weed spread, some areas may experience a shorter fire season and less frequent and/or intense wildfires.</p>	<p>Alternative D contains a defined set of tools for wildland fire management. Alternative D would allow for management flexibility in designing fuels treatments and response to wildland fire.</p> <p>Strategic wildfire suppression planning would help return PHMA to natural fire intensities and intervals.</p> <p>Impacts from limiting OHV travel to existing roads would be the same as those described for Alternative B.</p>	<p>Developing a fuels break strategy, response time analysis and water availability analysis would help focus suppression activities in areas with the greatest likelihood of reducing wildfire spread.</p> <p>Use of native vegetation for restoration and controlling invasive species for three years after wildfire treatments would reduce the likelihood for weed invasion in burned or treated areas, thus reducing the frequency and intensity of wildland fires.</p> <p>This alternative promotes active and aggressive control of invasive species, which would likely result in a reduced likelihood of large-scale wildland fires.</p> <p>Targeted grazing would be allowed to reduce fine fuels, resulting less need for mechanical or chemical fuels treatments.</p>	<p>Impacts from fire management would be the same as those described under Alternative B.</p>	<p>Impacts from fire management would be similar to those under Alternatives B and D. Because anthropogenic disturbance excludes habitat disturbance from wildfire and fuels management activities, the wildland fire and fuels program will retain management flexibility and a greater chance to meet goals and objectives over the life of the plan. The 3 percent anthropogenic disturbance cap should limit human-caused ignitions in Greater Sage-Grouse habitat over the long-term and decrease the probability of wildfire occurrence and the need for fire-suppression activities. Coordination with other land management agencies and landowners may promote improved habitat conditions across land management boundaries, thus improving the efficiency and effectiveness of fire and fuels treatments across the landscape. Additionally, implementation of the Wildfire, Invasive Annual Grasses and Conifer Expansion Assessment will improve wildland fire management across the landscape via improved coordination across agencies.</p>

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan (2015)
Wilderness Characteristics						
Management actions to protect other resources and special designation areas offer some protection of wilderness characteristics. Alternative A includes the fewest Greater Sage-Grouse protections and is least restrictive of surface-disturbing activities that have the potential to alter the natural setting, as well as reduce opportunities for solitude or primitive recreation, of lands with wilderness characteristics. Therefore, degradation of wilderness characteristics is most likely under this alternative.	Under Alternative B, restrictions on resource uses, such as ROW exclusion and closure to mineral exploration and development, would offer more protection of lands with wilderness characteristics compared to Alternative A.	Impacts from Alternative C would be similar those described for Alternative B, but would be applied across a larger geographic area. As such, Alternative C would provide greater protection from surface- disturbing activities on lands with wilderness characteristics.  In addition, livestock grazing would be prohibited in PHMA (i.e., all occupied habitat). This would eliminate the need for livestock developments (e.g., fences, cattle guards, guzzlers, stock ponds, and access roads) and would enhance wilderness characteristics.	Under Alternative D, the BLM and Forest Service would apply restrictions on resource uses similar to, though less than, Alternative B. Restrictions would include ROW avoidance areas and stipulations on mineral leasing. Such restrictions would provide more protection to lands with wilderness characteristics compared to Alternative A.	Under Alternative E, impacts from restrictions on resource uses would be similar to Alternative B, though restrictions would apply to a smaller area of lands with wilderness characteristics.	Impacts would be the same as those described for Alternative B.	Under the Proposed Plan, wilderness characteristics would receive indirect, incidental protections from the restrictions placed on management actions. Areas in PHMA and IHMA would remain open to fluid mineral leasing, with fewer acres closed leasing than any other alternative, including Alternative A. Any indirect protections wilderness characteristics might experience from closing acres to fluid mineral leasing would be experienced the least under the Proposed Plan.
Livestock Grazing/Range Management						
In general, Alternative A would be the least restrictive on livestock grazing.  Under Alternative A, livestock grazing would continue to be managed under current guidance, with AUMs and acres open to grazing remaining at current levels. Grazing allotments would continue to be subject to permit renewals and assessments of rangeland health.	Acres open to grazing and permitted AUMs would be the same as for Alternative A.  PHMA would be managed so that at least 70 percent of the land cover provides adequate sagebrush habitat to meet Greater Sage-Grouse needs. Where cover requirements do not meet forage objectives for livestock grazing, this would result in the need to modify grazing practices with increased costs for permittees.  Consideration of Greater Sage-Grouse habitat objectives and management would be required in grazing management in PHMA and incorporated into grazing allotments through BLM AMPs or permit renewals or BLM and Forest Service NEPA processes. As a result, impacts would occur over time at a site-specific level as measures are incorporated into individual allotments.  Land Health assessment and permit renewals would be prioritized in PHMA, but there is potential for further degradation of lands outside of PHMA that are not meeting land health standards or desired conditions.	Under Alternative C, grazing would be eliminated from all allotments completely or partially within occupied habitat. Closures would impact permittees' current seasonal rotations or other management strategies that utilize both federal and private lands. The elimination of permitted grazing in PHMA under Alternative C may result in permittees' going out of business, with impacts on both individual permittees as well as local communities as a whole. Additional details of the economic impacts are discussed in Section 4.14, Social and Economic Conditions.  Beneficial or adverse impacts on range management from other resource uses (e.g., ROW or fluid mineral development) would be diminished in scale and intensity because of the elimination of grazing in all allotments intersecting occupied habitat.	Acres open to grazing and permitted AUMs would be the same as for Alternative A. Impacts from management actions would be similar to those described under Alternative B.  A moderate decline in permitted grazing would be anticipated over time as grazing permits are modified to incorporate Greater Sage-Grouse objectives at renewal or allotment analysis. Coordination with the state should decrease conflicts in standards and provide a location appropriate framework, assisting permittees' ability to adopt these standards and reducing impacts.  Reconnection and expansion of native plant communities would be an objective across all Greater Sage-Grouse habitat types and restoration of seasonal habitats would be emphasized in both priority and medial habitats. Should treatments in this habitat not match with vegetation objectives for livestock grazing, forage quality would decrease. However, in most cases, treatment (e.g., conifer removal) would improve forage conditions in the long term.	Under Alternative E, allotment renewal in CHZ and IHZ would be prioritized where populations are declining.  Alternative E would allow for greater flexibility in management options, limiting impacts on range management.  Changes could be required to grazing timing and intensity to meet Greater Sage-Grouse habitat requirements, with the potential for some increased time and costs to permittees as compared to Alternative A. However, due to the increased flexibility in management actions under this alternative, permittees would have more options to address Greater Sage-Grouse habitat requirements, and impacts on range management would be limited.	In areas where grazing is permitted, management would be similar to that described in Alternative B but increased in intensity due to increased restrictions on prohibitions to grazing after fire and the prohibition on all new range improvements. These actions are likely to further limit the abilities of permittees/lessees to fully utilize permitted AUMs and result in increased time and cost for management.	Acres open to grazing and permitted AUMs would be the same as for Alternative A.  Grazing management actions and impacts are similar to those described in Alternatives B and D. Greater Sage-Grouse habitat objectives would be incorporated into grazing allotments through allotment management plans or permit renewals, or Forest Service NEPA processes, a moderate decline in permitted grazing is anticipated over time as permits are modified to meet objectives. In the proposed plan, specific guideline for Greater Sage-Grouse seasonal habitat with impacts determined at implementation level for BLM lands.  Priority for land health assessment and permit renewal would include SFAs first followed by PHMAs outside the SFAs. Changes in management would follow this priority order.  The Proposed Plan would also include additional vegetation treatment measures such as conifer removal, and annual grass treatment, with specific vegetation objectives in PHMA. FIAT

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan (2015)
(see above)	(see above)	(see above)	(see above)	(see above)	(see above)	assessments will also be used at implementation to determine site specific fire management measures. Where vegetation and fire management objectives do not meet forage objectives for livestock grazing, this would result in the need to modify grazing practices. However, in most cases, treatments (e.g., conifer removal) would improve forage conditions in the long term.  Disturbance of livestock grazing and livestock forage from development activities would be minimized in the Proposed Plan due to the inclusion of a cap on anthropogenic disturbance, mitigation for conservation gain to Greater Sage-Grouse, and conservation measures such as adaptive management and defined monitoring, RDFs, and lek buffers.
Travel Management						
Areas currently designated as open to cross-country OHV use would continue to be managed as such. There would be no new restrictions related to Greater Sage-Grouse habitat management and no change in current levels of access under Alternative A.  All Forest Service-administered lands would be limited to designated routes.	The BLM and Forest Service would limit OHV travel to existing roads and trails in PHMA. This would reduce cross-country access in those portions of PHMA that were previously managed as open for cross-country travel. Applications for the upgrading or realignment of existing routes would be required to meet certain design, location, and mitigation criteria intended to protect Greater Sage-Grouse habitat. These requirements may preclude the construction of some new routes, but would be unlikely to reduce access across the decision area.  Impacts on Forest Service-administered lands would be the same as for Alternative A.	The BLM and Forest Service would limit OHV travel to existing roads and trails in PHMA. Additionally, in PHMA, new road construction within 4 miles of active leks would be prohibited. Upgrading of existing routes in occupied habitat where such action would damage Greater Sage-Grouse habitat would also be precluded. Together, these actions would result in site-specific losses of opportunity for motorized travel and future route construction and improved access.  Impacts on Forest Service-administered lands would be the same as for Alternative A.	All BLM lands in Field Offices containing Greater Sage-Grouse habitat would be limited to existing routes and off-road OHV travel prohibited with the exception of specific areas managed as open for recreation purposes.  Impacts on Forest Service-administered lands would be the same as for Alternative A.	Impacts under Alternative E would be similar to Alternative D, with fewer acres identified as limited to existing routes in Greater Sage-Grouse habitat.	Impacts under Alternative F on BLM-administered lands would be the same as Alternative B.  Impacts on Forest Service-administered lands would be the same as for Alternative A.	Impacts under the Proposed Plan would be the same as Alternative D



Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan (2015)
Lands and Realty						
<p>ROW avoidance and exclusion restrictions would not be applied in Greater Sage-Grouse habitat, thus, not preventing the BLM or Forest Service from accommodating future demand for ROW development within the planning area.</p> <p>Existing transportation routes would continue to provide motorized access to ROW infrastructure and communication sites for construction and maintenance with no additional impacts on lands and realty from travel and transportation management.</p> <p>Greater Sage-Grouse habitat would remain available for withdrawal or disposal as needed to serve BLM or other agency objectives.</p>	<p>Managing PHMA as ROW exclusion would prevent the BLM and Forest Service from accommodating new ROW development in those areas. With a continuing demand for new ROWs in the planning area, including major inter- and intra-state electrical transmission and pipeline ROW developments would be prevented or diverted to adjacent non-federal lands. Development on adjacent lands could result in more extensive direct and indirect impacts on Greater Sage-Grouse populations and habitat (e.g., vehicle traffic on roads crossing public lands), especially if the development is within close proximity to Greater Sage-Grouse habitat on BLM-administered or Forest Service-administered lands, or the ROW route is longer to avoid federal lands.</p> <p>Within exclusion areas, BLM and Forest Service would only consider new ROW authorizations where the proposed infrastructure could be co-located entirely within the footprint of an existing ROW. BLM and Forest Service would require co-location in GHMAs where possible. Impacts on the lands and realty program under Alternative B would include the need to locate proposed facilities outside exclusion areas or within existing ROWs, which limits the BLM's ability to accommodate the demand for new infrastructure development, including wind energy development.</p> <p>PHMA lands would not be available for disposal or withdrawal, limiting BLM's ability to accommodate other management objectives with land tenure changes.</p>	<p>The BLM would not authorize new ROWs in exclusion areas unless the infrastructure could be located in an existing ROW authorization footprint. Impacts under Alternative C would be similar to Alternative B, but over a greater area.</p> <p>Alternative C would further limit opportunities for communication facilities, pipelines, fiber optic cables, electrical transmission lines, and similar ROW development in response to ongoing needs.</p> <p>Impacts on land tenure would be the same as Alternative B but cover a wider area (all occupied habitat).</p>	<p>Lands and Realty management under Alternative D would establish avoidance areas in Greater Sage-Grouse habitat, impacting the BLM- and Forest Service-administered lands and realty programs by reducing the BLM and Forest Service's ability to authorize above-ground linear ROWs, such as electrical transmission lines in PHMA.</p> <p>Within avoidance areas, additional stipulations for the development of electrical transmission lines could result in the denial of projects that cannot meet ROW grant requirements for the protection of Greater Sage-Grouse habitat. Limitations on electrical transmission line development, renewable energy development, and new roadways under Alternative D would be less than Alternative C which creates exclusion areas,</p> <p>Impacts from travel management would be the same as those described above under Alternative B.</p> <p>Impacts on land tenure would be the same as Alternative B.</p>	<p>Stipulations associated with ROW avoidance areas under Alternative E would limit the BLM's ability to accommodate the demand for new infrastructure development in Greater Sage-Grouse habitat, but less than establishing exclusion areas. With demand for new ROWs in the planning area, including major inter- and intra-state electrical transmission and pipeline ROW developments, expected to continue and increase over time, new ROW development would be diverted to adjacent non-federal lands or blocked. If new ROW development could not be feasibly developed, the result would be reduced energy and communication opportunities to meet growing needs.</p> <p>Impacts from travel management would be the same as those described under Alternative A.</p> <p>Impacts on land tenure would be the same as Alternative A.</p>	<p>With establishment of ROW exclusion areas, neither the BLM nor Forest Service would authorize new ROW development in occupied habitat. Therefore, Alternative F would further reduce opportunities for renewable energy, communication facilities, pipelines, fiber optic cables, electrical transmission lines, and similar ROW development from occurring in the planning area, to meet growing energy and communication needs, similar to Alternative B.</p> <p>Impacts from Travel and Transportation Management under Alternative F would be the same as Alternative A.</p> <p>Impacts on land tenure would be the same as Alternative B.</p>	<p>Similar to Alternative D, the Proposed Plan would reduce the amount of land within Greater Sage-Grouse habitat available to ROW/SUA development without restrictions, compared to Alternative A. Within avoidance areas, additional stipulations for the development of electrical transmission lines could result in the denial of projects that cannot meet ROW/SUA grant requirements for the protection of Greater Sage-Grouse habitat. Limitations on electrical transmission line development, renewable energy development, and new roadways under the Proposed Plan would be less than other alternatives, such as Alternative C, which creates exclusion areas. Greater Sage-Grouse conservation measures under the Proposed Plan, such as the requirement for activities to promote net conservation gain for Greater Sage-Grouse, RDFs, buffers, and tall structure limitations, would likely discourage limit future development PHMA and IHMA. Projects that are proposed in PHMA or IHMA would incur added costs and more complex and lengthy review periods.</p> <p>Restrictions on surface activities for fluid minerals, closure of PHMA to mineral materials, and the proposed withdrawal of SFAs for locatable minerals would reduce the short- and long-term demand for ROWs/SUAs to support mineral development.</p> <p>By allowing land tenure actions that result in the net conservation gain of Greater Sage-Grouse habitat, the BLM and Forest Service could carry out actions that consolidate land ownership or acquire lands with higher quality Greater Sage-Grouse habitat.</p>

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan (2015)
Minerals						
Fluid Minerals (Oil and Gas)						
<p>Under Alternative A, 289,500 unleased medium potential acres would continue to be closed to fluid mineral leasing.</p> <p>New leases in most BLM field offices and Forest Service districts within the decision area would continue to be subject to TLs, and NSO buffers would be applied for varying distances around leks.</p> <p>Acres closed have the greatest impact on the fluid minerals program by prohibiting oil and gas development on portions of federal mineral estate with high potential for such development.</p> <p>In areas closed to leasing, oil and gas operations would be restricted in their choice of project locations and may be forced to develop in areas that are challenging to access or have less economic resources because more ideal areas could be closed to leasing. This could raise the cost of fluid mineral development in the planning area and could result in operators moving to nearby private or state minerals that are open to leasing.</p>	<p>All federal mineral estate within PHMA, including 496,300 unleased medium potential acres, would be closed to oil and gas leasing. Closure of these acres would directly impact the fluid minerals program as described under Alternative A. However, because the acreage closed would increase under Alternative B, the magnitude of these impacts would also increase.</p> <p>Existing leases would remain valid through their term but could not be renewed, resulting in further long-term restrictions on the development of fluid mineral resources.</p> <p>Conservation measures in addition to RDFs would be applied as COAs to existing leases on PHMA overlying federal mineral estate. Application of these requirements would impact fluid mineral operations by increasing costs if it resulted in the application of additional requirements and/or use of more expensive technology. To avoid these costs, operators may move to nearby state or private minerals, resulting in lost royalties for the BLM and Forest Service.</p>	<p>All federal mineral estate in the decision area, including 601,000 unleased medium potential acres, would be closed to oil and gas leasing. Closure of these acres would directly impact the fluid minerals program as described under Alternative A; however, because Alternative C would close the most acres out of any alternative, the magnitude of these impacts would also increase.</p> <p>Management actions applicable to existing leases under Alternative C would be similar to those under Alternative B, but they would apply to all existing leases in the decision area. Alternative C would also call for COAs implementing seasonal restrictions on vehicle traffic and human presence associated with exploratory drilling. This alternative also would limit new surface disturbance on existing leases to 3 percent per section, with some exceptions. Impacts of these operating and siting restrictions would be the same type as those described under Alternative B, although the magnitude of the impacts would increase.</p>	<p>Fluid mineral allocations in PHMA and IHMA would vary depending on oil and gas development potential. 289,500 unleased medium potential acres would be closed to oil and gas leasing. An NSO stipulation would apply within 0.6 mile of leks to 176,900 acres.</p> <p>New leases within PHMA and IHMA would be subject to density limitations and a 3-percent disturbance cap for each section.</p> <p>Management of existing fluid mineral leases under Alternative D would be the same as that under Alternative B except that all management actions other than RDFs would apply to all 101 existing leases within Greater Sage-Grouse habitat.</p>	<p>Within the planning area, 289,500 unleased medium potential acres would be closed to fluid mineral leasing under this alternative.</p> <p>Management existing leases in the decision area would be similar to that under Alternative A. Unleased areas in CHZ and IHZ would be open to leasing subject to an NSO stipulation.</p>	<p>Impacts of closures under Alternative F would be the same as under Alternative B.</p> <p>Management actions applicable to existing leases under Alternative F would be similar to those under Alternative C. However, under Alternative F, TLs would prohibit human presence as well as surface-disturbing activities during the nesting and brood-rearing season. This management would be the most restrictive management out of all the alternatives.</p>	<p>Within the planning area, 257,400 unleased medium potential acres would be closed to oil and gas leasing. Closure of these acres would directly impact the fluid minerals program as described under Alternative A; however, because more acres would be closed under the proposed plan, the magnitude of these impacts would increase.</p> <p>The same RDFs would be applied to the same acreage as under Alternative B. However, the only conservation measures applied would relate to master development plans and unitization.</p> <p>Application of the three percent disturbance cap and NSO with limited exception in PHMA and IHMA, and lek buffers in GHMA could impact both new and existing fluid mineral activities by preventing or restricting new surface development.</p> <p>Management of existing fluid mineral leases under the Proposed Plan would be the same as that under Alternative B with the same impacts.</p>

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan (2015)
<b>Fluid Minerals (Geothermal)</b>						
<p>Under Alternative A, 12,513,900 acres of the planning area would be closed to geothermal leasing. This includes 2,939,400 acres of available moderate to high potential areas and 9,574,600 acres of available low to no potential areas.</p> <p>New leases in most BLM field offices and Forest Service districts within the decision area would continue to be subject to TLs, CSUs, and NSO buffers would be applied for varying distances around leks.</p>	<p>Under Alternative B, 19,598,800 acres of the planning area would be closed to geothermal leasing. This includes 5,287,800 acres of available moderate to high potential areas and 14,311,000 of available low to no potential areas.</p> <p>Existing leases would remain valid through their term but could not be renewed, resulting in further long-term restrictions on the development of fluid mineral resources.</p> <p>Conservation measures in addition to RDFs would be applied as COAs to existing leases on PHMA overlying federal mineral estate. Application of these requirements would impact fluid mineral operations by increasing costs if it resulted in the application of additional requirements and/or use of more expensive technology. To avoid these costs, operators may move to nearby state or private minerals, resulting in lost royalties for the BLM and Forest Service.</p>	<p>Under Alternative C, 21,901,100 acres of the planning area would be closed to geothermal leasing. This includes 6,137,200 acres of available moderate to high potential areas and 15,763,900 acres of available low to no potential areas.</p> <p>Management actions applicable to existing leases under Alternative C would be similar to those under Alternative B, but they would apply to all existing leases in the decision area. Alternative C would also call for COAs implementing seasonal restrictions on vehicle traffic and human presence associated with exploratory drilling. This alternative also would limit new surface disturbance on existing leases to 3 percent per section, with some exceptions. Impacts of these operating and siting restrictions would be the same type as those described under Alternative B, although the magnitude of the impacts would increase.</p>	<p>Under Alternative D, 17,526,500 acres of the planning area would be closed to geothermal leasing. This includes 3,215,600 acres of available moderate to high potential areas and 14,311,000 acres of available low to no potential areas.</p> <p>New leases within PHMA and IHMA would be subject to density limitations and a 3-percent disturbance cap for each section.</p> <p>Management of existing fluid mineral leases under Alternative D would be the same as that under Alternative B except that all management actions other than RDFs would apply to all 101 existing leases within Greater Sage-Grouse habitat.</p>	<p>Acres of moderate to high and low to no potential areas closed to geothermal leasing would be the same as Alternative A. Acres subject to types of stipulations would differ; more acres would be open subject to NSO stipulations, less acres would be open subject to CSU/TL stipulations, and less acres would be open subject to standard terms and conditions.</p> <p>Unleased areas in CHZ and IHZ would be open to leasing subject to an NSO stipulation.</p>	<p>Under Alternative F, 12,513,900 acres of the planning area would be closed to geothermal leasing. This includes 2,939,400 acres of available moderate to high potential areas and 9,574,600 acres of available low to no potential areas.</p> <p>Management actions applicable to existing leases under Alternative F would be similar to those under Alternative C. However, under Alternative F, TLs would prohibit human presence as well as surface-disturbing activities during the nesting and brood-rearing season.</p>	<p>Under the Proposed Plan 11,296,800 acres of the planning area would be closed to geothermal leasing. This includes 2,832,800 acres of available moderate to high potential areas and 8,464,000 acres of available low to no potential areas.</p> <p>Under the proposed plan, RDFs and BMPs would be applied as COAs when a geothermal drilling permit or other post-lease activity is approved. In addition to affecting new leases, the COAs would be applied to the 25,571 acres of existing leases within Greater Sage-Grouse habitat, consistent with existing lease terms and special stipulations. These RDFs and conservation measures would include such requirements as noise restrictions, structure height limitations, design requirements, water development standards, remote monitoring requirements, and reclamation standards as described in Appendix A [of the 2015 Final EIS]. This alternative also would limit new surface disturbance on existing leases to 3 percent per section, with some exceptions.</p>



Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan (2015)
<b>Nonenergy Leasables</b>						
<p>Under Alternative A, no changes would be made to the acres open and closed to leasing consideration. Currently, 11,799,500 acres are closed to non-energy mineral leasing.</p> <p>Existing federal non-energy leasable mineral leases in the decision area would continue to be subject to any stipulations or BMPs contained in those leases. Application of BMPs could alter how mineral resources are accessed and extracted and result in the use of different technology than would otherwise have been used.</p> <p>Non-energy leasable mineral development operations may also move to nearby private or state minerals containing non-energy leasable mineral resources within Greater Sage-Grouse habitat. This change would result in lost royalties for the BLM and Forest Service.</p>	<p>Under Alternative B, PHMA would be closed to prospecting and leasing (19,167,400 acres). Management under this alternative would close more federal mineral estate to non-energy leasable mineral prospecting and leasing than management under Alternative A. Closing areas to non-energy mineral prospecting and leasing would result in the same type of impacts as under Alternative A, but over a larger area.</p> <p>However, the majority of acres in unleased KPLAs, where interest in non-energy leasable mineral development is most likely, would remain open to leasing. Therefore, impacts would be mitigated.</p> <p>Existing federal non-energy leasable mineral leases in PHMA would be subject to RDFs. Application of RDFs would increase costs of non-energy leasable development if it delayed resource development or resulted in the use of more expensive technology or less efficient development than would otherwise have been used.</p>	<p>Impacts under Alternative C would be the same as those described under Alternative B except that more acres would be closed (21,629,700 acres). As a result, the magnitude of impacts under this alternative would increase.</p> <p>However, similar to Alternative B, the majority of unleased acres in KPLAs would remain open to leasing. Therefore, impacts would be mitigated.</p>	<p>Under Alternative D, PHMA and IHMA would be closed to prospecting and leasing. Management under this alternative would close more federal mineral estate (8,308,600 acres) to non-energy leasable mineral prospecting and leasing than management under Alternative A.</p> <p>Impacts in unleased KPLAs would be similar to those under Alternative A except that CSUs and seasonal and daily TLs would be applied to all lands available for leasing in GHMA. Additionally, TLs would be applied to the ten federal phosphate leases within Greater Sage-Grouse habitat.</p> <p>Applying BMPs as Conditions of Approval on any new mine plan and requiring restoration of habitat or off-site mitigation could alter how mineral resources are accessed and extracted and result in the use of different (potentially more expensive) technology than would otherwise have been used.</p>	<p>Non-energy leasable mineral allocations under Alternative E would be the same as those under Alternative A and would result in the same impacts.</p> <p>Impacts in unleased KPLAs would be similar to those under Alternative A except that lands open to leasing would be subject to several stipulations that include prohibiting permanent structures within occupied leks, prohibiting tall structures within one mile of leks, restrictions on noise disturbances, and various TLs specific to protecting leks. Stipulations would restrict the ability of mineral resources to be developed or extracted.</p>	<p>Impacts under Alternative F would be the same as those described under Alternative C, but would impact a smaller area (19,167,400 acres).</p> <p>However, similar to Alternative B, the majority of unleased acres in KPLAs would remain open to leasing. Therefore, impacts would be mitigated.</p>	<p>Impacts under the Proposed Plan would be similar to those described under Alternative B except that fewer acres would be closed (16,270,500 acres) and the disturbance cap and lek buffers would apply. Because more acres would be closed compared to Alternative A and additional restrictions would be added, impacts would increase under the Proposed Plan.</p> <p>Because KPLAs would remain open to nonenergy solid mineral leasing, impacts on federal nonenergy solid leasable mineral development would be mitigated.</p> <p>Application of RDFs and TLs to existing phosphate leases in Greater Sage-Grouse habitat would result in the same impacts described under Alternative D.</p>

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan (2015)
<b>Locatable Minerals</b>						
<p>Under Alternative A, no change would be made to the acres of federal mineral estate with high potential that are withdrawn or petitioned for withdrawal (currently 5,380,200 acres). Withdrawal or closure of an area to mining development eliminates the ability to access and extract the mineral resources in that area under new claims. This represents an impact on the potential discovery, development, and use of those resources by decreasing the availability of mineral resources. In addition, validity exams must be completed on all existing claims in withdrawn areas. The need for these exams adds costs and delays for the BLM, Forest Service, and claimant.</p> <p>This alternative would be the least restrictive to locatable minerals because a larger percentage of the decision area would be open to locatable mineral entry and no additional restrictions would be applied to mining operations.</p>	<p>Under Alternative B, PHMA (7,928,700 acres) would be recommended for withdrawal in addition to the 5,380,200 acres currently withdrawn. The large increase in areas petitioned for withdrawal under this alternative compared with Alternative A would increase the development delays and costs of validity exams on the BLM, Forest Service, or claimant. Accessing and extracting locatable minerals of federal mineral estate would not be impacted by applying BMPs; however, mining operations and practices could be affected and costs increased if an operator agrees to apply any of the BMPs on a project-specific basis.</p>	<p>Impacts under Alternative C would be the same as those described under Alternative B except that more acres (11,555,000 acres) would be recommended for withdrawal. The magnitude of impacts under this alternative would increase since more acreage would be affected.</p> <p>Impacts from applying BMPs would be the same as those described under Alternative B.</p>	<p>Impacts under Alternative D would be the same as those described under Alternative A, except that additional measures to avoid or minimize adverse effects on Greater Sage-Grouse and their habitat would be required for 3809 notices and plans of operations in all habitat types. A total of 11,555,000 acres would be recommended for withdrawal under this alternative. Impacts from these additional measures would be highly variable depending on the extent of the additional requirements. If these measures resulted in the mineral resource not being able to be accessed or extracted, an impact on the potential discovery, development, and use of those resources would occur because the availability of mineral resource would decrease.</p> <p>Impacts from applying BMPs would be the same as those described under Alternative B.</p>	<p>Impacts under Alternative E would be the same as those described under Alternative A.</p>	<p>Impacts under Alternative F would be the same as those described under Alternative B.</p>	<p>Under the Proposed Plan 2,968,200 acres would be recommended for withdrawal. The increase in areas petitioned for withdrawal compared with Alternative A would result in the types of impacts described under Alternative B.</p> <p>Impacts from applying BMPs would be the same as those described under Alternative B.</p>
<b>Salable Minerals (Mineral Materials)</b>						
<p>Under Alternative A, no change would be made to the acres that would open or closed (currently 10,707,600 acres closed) to mineral material disposal.</p>	<p>Under Alternative B, all PHMA would be closed to mineral material disposal (18,589,300 acres). Closing these acres would prevent access to the mineral resources underlying them and reduce mineral material development in the decision area.</p> <p>Management of mineral materials on federal mineral estate outside of PHMA would be the same as that under Alternative A.</p>	<p>Under Alternative C, all Greater Sage-Grouse habitat would be closed to mineral material disposal (21,174,000 acres). This alternative would close the most acres to mineral material disposal of all the alternatives. Therefore, impacts on mineral materials would be the highest under Alternative C.</p>	<p>Under Alternative D, areas within 3 km of occupied leks would be closed to mineral materials disposal (13,211,100 acres).</p> <p>All other areas in Greater Sage-Grouse habitat would be subject to TLs.</p>	<p>Alternative E would close the same acres as under Alternative A (10,707,600 acres).</p> <p>Under Alternative E, mineral materials management would differ between portions of the decision area in Idaho and Montana and portions in Utah.</p> <p>Within Idaho and southwest Montana, CHZ would be closed to mineral material disposal. Closure of the 114 existing community pits in CHZ (23 percent of existing community pits in Greater Sage-Grouse habitat) would also be recommended.</p> <p>Within Utah, mineral material operations within PHMA would be subject to TLs and other restrictions.</p>	<p>Under Alternative F, 18,589,300 acres would be closed to mineral materials disposal. Impacts of these closures would be the same type as those described under Alternative B. Because more acres would be closed under Alternative F than under Alternative A, impacts on the mineral materials programs would increase.</p>	<p>Under the Proposed Plan, all PHMA would be closed to mineral material disposal (15,529,000 acres). The impacts described under Alternative B would be mitigated in the Montana portion of the decision area because new free use permits would still be allowed and existing pits would be able to expand. Because 45 percent more acres of federal mineral estate would be closed under the Proposed Plan compared with Alternative A, the magnitude of these impacts would increase.</p> <p>Application of the disturbance threshold in IHMA and RDFs, buffers, and timing restrictions in IHMA and GHMA would increase restrictions on mineral material activities compared with Alternative A, thereby increasing impacts.</p>

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan (2015)
Special Designations						
Areas of Critical Environmental Concern						
The BLM would continue managing the 53 existing ACECs containing 325,000 acres of occupied Greater Sage-Grouse habitat to protect the identified relevant and important values. Sagebrush habitat is not identified as a relevant and important value in any of these existing ACECs.	No new ACECs would be designated. Impacts would be similar to those described under Alternative A, however existing ACECs and the identified relevant and important values for which they were designated could experience indirect, beneficial impacts from restrictions placed on Greater Sage-Grouse habitat within or adjacent to ACECs.	Under Alternative C, 39 new BLM ACECs encompassing approximately 4,200,000 acres of occupied Greater Sage-Grouse habitat would be designated as sagebrush reserves, for the relevant and important value of conserving Greater Sage-Grouse.	No new ACECs would be designated. Impacts would be the same as those described under Alternative B.	No new ACECs would be designated. Impacts would be the same as those described under Alternative B.	Under Alternative F, up to 18 new BLM ACECs and Forest Service Greater Sage-Grouse Zoological Areas encompassing up to 8.3 million acres of occupied Greater Sage-Grouse habitat would be designated as sagebrush reserves for the relevant and important value of conserving Greater Sage-Grouse.	No new ACECs would be designated. Impacts would be the same as those described under Alternative B.
Socioeconomic Impacts						
Under Alternative A, current management would continue for grazing, mineral leasing and development, and other activities in Greater Sage-Grouse habitat areas.  The economic benefits of these activities would be maintained, and communities would not suffer losses in income or jobs associated with Greater Sage-Grouse conservation efforts.	Under Alternative B, grazing would not be restricted on Greater Sage-Grouse habitat, so permittees would not suffer economic losses.  Under Alternative B, mineral leasing for fluid minerals, salable minerals and mineral materials would be closed or restricted in PHMA. These restrictions would reduce the opportunity to develop minerals on federal land and reduce the revenue and jobs to local communities.	Alternative C would eliminate grazing from all allotments in occupied habitat. The elimination of permitted grazing in PHMA under Alternative C may result in permittees' going out of business, with impacts on both individual permittees as well as local communities as a whole.  Socioeconomic impacts from reduced mineral leasing and development would be similar to Alternative B but would cover a wider area, all occupied habitat.	Under Alternative D, grazing would be maintained at current levels, maintaining the economic benefits of grazing to permittees and communities.  Mineral leasing acreage would not be reduced under Alternative D, but would be subject to stipulations regarding timing and proximity to Greater Sage-Grouse lek sites. Maintaining current acreage open to leasing would minimize economic harm to workers and communities from Greater Sage-Grouse conservation measures.	Under Alternative E, grazing would be maintained at current levels, maintaining the economic benefits of grazing to permittees and communities.  Mineral leasing acreage would not be reduced under Alternative E, but limited areas would be subject to stipulations regarding timing and proximity to Greater Sage-Grouse lek sites. Maintaining current acreage open to leasing would minimize economic harm to workers and communities from Greater Sage-Grouse conservation measures.	Alternative F restrictions on grazing could also harm permittees' economic well-being and may drive some out of business, causing harm to individuals and communities in Greater Sage-Grouse habitat areas.  Socioeconomic impacts from reduced mineral leasing and development would be similar to Alternative B.	Under the Proposed Plan, grazing would be maintained at current levels, maintaining the economic benefits of grazing to permittees and communities.  Mineral leasing acreage would not be reduced under the Proposed Plan, but would be subject to stipulations regarding timing and proximity to Greater Sage-Grouse lek sites. Maintaining current acreage open to leasing would minimize economic harm to workers and communities from Greater Sage-Grouse conservation measures.

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#### 4.4 IMPACTS OF THE 2018 FINAL EIS MANAGEMENT ALIGNMENT ALTERNATIVE

**Table 4-4**, below, summarizes if and how decisions in the 2018 Final EIS Management Alignment Alternative were considered in the 2015 Final EIS. Issues needing further analysis are analyzed further in this chapter.

**Table 4-4**  
**Consideration of Management Alignment Alternative Components in the 2015 Final EIS**

<b>Management Alignment Alternative (2018)</b>	<b>Considered in 2015</b>
Modifying habitat management areas	Various habitat management area configurations were proposed in 2015, Section 2.9, pg. 2-83.
Removing SFA designations	All alternatives in 2015 considered the absence of SFA designation.
Adjusting density caps	Density caps of an average of one energy and mining facility per 640 acres in PHMA were considered as the Proposed Plan (pg. 2-30).
Modifying disturbance caps	Human disturbance cap of 3 percent within PHMA in any BSU, excluding disturbance from wildfire and fuels management activities, was considered as the Proposed Action (pg. 2-29).  The Proposed Action in the 2015 Final EIS considered human disturbance criteria and development prioritization (pg. 2-31).
Modifying lek buffers	The application of lek buffers was considered as the Proposed Plan (pg. 2-34), except for the buffers' inapplicability to vegetation treatments specifically designed to improve or protect Greater Sage-Grouse habitat. Various lek buffers were considered among the alternatives in Chapter 2.
Including waivers, exceptions, and modifications on NSO stipulations	Under the Proposed Plan in the 2015 Final EIS, areas within PHMA and IHMA would be open to development and leasing and subject to an NSO stipulation, with a limited exception (pg. 2-51).  Under the Proposed Plan in the 2015 Final EIS, nominated parcels would be evaluated for development feasibility prior to lease offering (pg. 2-51).  The Proposed Plan in the 2015 Final EIS considered criteria for the granting of exceptions to the NSO stipulation (pg. 2-52), except that the criteria were based on a different conservation standard (i.e., conservation gain versus no net loss).  Alternative D in the 2015 Final EIS considered a no net loss standard.  Alternatives A and E in the 2015 Final EIS considered the absence of written orders of the BLM Authorized Officer, requiring reasonable protective measures for Greater Sage-Grouse.

Management Alignment Alternative (2018)	Considered in 2015
Changing requirements for design features	<p>The Proposed Plan in the 2015 Final EIS considered the incorporation of RDFs in PHMA and IHMA (p. 2-33) but did not consider the application of RDFs as best management practices (BMPs) in GHMA.</p> <p>The Proposed Plan in the 2015 Final EIS considered closures or limitations on mineral materials development in PHMA and IHMA (p. 2-54); however, it did not consider GMHA open to mineral materials development, subject to BMPs.</p> <p>The Proposed Plan in the 2015 Final EIS considered closures or limitations on leasing within known phosphate leasing areas (p. 2-55); however, it did not consider GMHA open prospecting and subsequent leasing, subject to BMPs.</p> <p>Alternative E in the 2015 Final EIS considered the management of new ROWs in GHMA for utility-scale energy developments without RDFs or BMPs (p. 2-176).</p> <p>Management of new ROWs in GHMA subject to BMPs was not analyzed in 2015.</p>
Modifying habitat objectives	All action alternatives considered the application of habitat objectives as informative metrics but not as land health standards.
Modifying decisions for livestock grazing commensurate with the threat posed	<p>The prioritization of review and processing of grazing permits/leases based on land health conditions or concerns in PHMA and IHMA was not considered in 2015.</p> <p>The prioritization of HMAs for rangeland health assessments with known land health issues or where local populations of Greater Sage-Grouse are in decline was not considered in 2015.</p>
Modifying the mitigation strategy to align with the state mitigation strategy, including standard for no net loss	<p>Alternative D in the 2015 Final EIS considered the application of a no net loss mitigation standard.</p> <p>Alternative E in the 2015 Final EIS considered not acquiring habitat or generally retaining habitat within PHMA and IHMA.</p> <p>Alternative E in the 2015 Final EIS considered the development of an in lieu fee mitigation program.</p> <p>The Proposed Plan in the 2015 Final EIS considered the application of a mitigation hierarchy for fluid mineral development (pg. 2-51) but not its inapplicability to GHMA.</p>

## I. Modifying Habitat Designations

**MD SSS 6:** Habitat conditions and our understanding of Greater Sage-Grouse can change over time as new science emerges and the climate changes; therefore, it may be necessary to modify habitat boundaries and designations within Idaho. To effectively respond to changes, the BLM and cooperating agencies have developed a two-team approach, detailed in the management alignment alternative, which would become Appendix K [of the 2018 Final EIS]. The process and sideboards identified in the two-team approach should reduce the risk of habitat adjustments being made that disregard the science and the needs of Greater Sage-Grouse.

If HMA habitat boundary changes were more than minor mapping error fixes, then determining the environmental consequences would not be determined at this time. This is because the context and intensity of the effects are unknown. Impacts should be further assessed at the time a change to the habitat management areas is proposed. The BLM anticipates that any impact resulting from a change in map boundaries would be consistent with those described in 2015.

**MD SSS 9:** Removal of the requirement to apply RDFs and buffers in existing Greater Sage-Grouse habitat outside of designated habitat management areas would reduce protections to Greater Sage-Grouse and its habitat; however, PHMA and IHMA designations were designed to protect approximately 90 percent of occupied Greater Sage-Grouse leks. Approximately 6 percent of occupied leks occur within GHMA. This leaves approximately 2 percent of occupied leks occurring outside of designated Greater Sage-Grouse habitat. Approximately 377,347 acres of key habitat were identified outside of designated habitats in 2017 and 27 occupied leks are known to occur outside of designated habitat management areas. These areas are typically more scattered and of lower quality than even GHMA. This suggests that a very small portion of Greater Sage-Grouse habitat in Idaho would be not be actively managed for Greater Sage-Grouse. Discrete developments would require site specific NEPA analysis and at a minimum would require avoidance and minimization measures to ensure no undue or unnecessary degradation. For more diffuse land uses, the Idaho Standards for Rangeland Health would still be applied. This action is not expected to have any measurable population level effects to Greater Sage-Grouse in Idaho.

The changes in designated habitat management area boundaries proposed in this document fix minor errors in the 2015 maps and remove some areas of non-habitat that were added to PHMA as part of the SFA designation, but do not benefit Greater Sage-Grouse (e.g., the forested portion of the Donkey Hills ACEC). These changes should have no impact to Greater Sage-Grouse conservation. Changing the Brown's Creek Area from PHMA to IHMA would not reduce protections in this area for the next 5-20 years. Currently all IHMA in the West Owyhee Conservation area is being managed as PHMA because of the hard trigger trip from the Soda Fire. These areas would be managed as PHMA until the habitat returns to the 2011 baseline (this could be 20 or more years). So effectively, this change has no impact. The Browns Creek area includes two lek routes that could be used to monitor the population changes within IHMA in the West Owyhee Conservation Area which currently does not have a lek route. This ability to track population changes within IHMA in this Conservation area would allow for full implementation of the adaptive management process. Currently a population trigger cannot be assessed in the IHMA in the West Owyhee Conservation Area because there is inadequate data. Adding these two lek routes would provide adequate data to fully implement the population trigger review.

**New\* MD SSS 44:** Both 2018 Final EIS alternatives include the use of interagency teams to facilitate responsible management flexibility regarding Greater Sage-Grouse habitat. The 2015 ROD/ARMPA and the Management Alignment Alternative refer to these teams using several different names, but the intent was similar. MD SSS 44 serves to formally identify this two-team interagency approach and the Appendix K [of the 2018 Final EIS] describes the responsibilities and sideboards for the actions these teams would take. This approach is expected to improve the Greater Sage-Grouse management beyond what BLM could accomplish alone, including

consistency across property ownership and improve interagency coordination and collaboration in Idaho. The makeup of the teams and the sideboards identified should help ensure responsible implementation of the flexibility that the Management Alignment Alternative allows.

## 2. Removing Sagebrush Focal Area Designation

**MD SSS 10, MD MR 10, MD WHB 3-6:** SFAs were a subset of PHMA and were managed as PHMA with some additional management, however that additional management overlaps significantly with management of PHMA. The proposed mineral withdrawal was canceled with a Notice of Cancellation published in the Federal Register on October 11, 2017. Both SFA and PHMA are managed as NSO for fluid Mineral leasing, the only difference is that PHMA allows for a limited exception and the exceptions must meet a stringent series of criteria to be approved as described in MD MR 3. Finally, both SFA and PHMA are the top two priorities for vegetative treatments, permit renewals, monitoring, and compliance checks. The removal of SFA designations would have no measurable effect on the conservation of Greater Sage-Grouse in Idaho because the Management Direction proposed for PHMA would remain in place and continue to protect Greater Sage-Grouse habitat. SFA removal would add flexibility for responsible development with stringent requirements including mitigation to achieve a no net loss to Greater Sage-Grouse habitat in PHMA.

## 3. Modifying Disturbance and Density Caps

**MD SSS 27:** Removal of the 3 percent project level disturbance cap would allow BLM to intentionally cluster developments within areas already degraded by discrete anthropogenic activities in Greater Sage-Grouse habitat as long as the overall disturbance within the BSU remains below 3 percent. The 3 percent project scale disturbance cap has the potential to spread development into undeveloped areas of Greater Sage-Grouse habitat just to avoid reaching the 3 percent project scale disturbance cap in already fragmented areas. All 8 BSUs in Idaho are well under the 3 percent BSU scale Disturbance Cap (most are less than 1 percent) and are expected to remain low because of the no-net-loss mitigation standard and the other restrictions to development in PHMA and IHMA. Some areas, especially those with existing development, may be further developed even though compensatory mitigation would offset those impacts for the statewide Greater Sage-Grouse habitat.

Most development is centered along population centers in Idaho and most Greater Sage-Grouse habitat is located away from habitat. This reduces the current potential for development related habitat loss or disturbance but as Idaho's population continues to grow, development in the future may be pushed more and more into Greater Sage-Grouse habitat. Idaho issued a total of 123 new ROWs since the 2015 ROD/ARMPA was implemented. Most of these ROWs were for small scale projects like power line adjustments or access roads that disturb very few acres and are outside of Greater Sage-Grouse HMAs.

Removal of the one energy or mining facility per 640 acres on average density cap would have little effect on Greater Sage-Grouse conservation in PHMA in Idaho because Idaho has limited energy or mining development in Sage-grouse habitat. To date BLM Idaho only has one producing natural gas well that is associated with a BLM lease. The well is located on private land but is drawing from gas reserves partially on federal mineral rights. There is also one oil and



gas lease proposed in the Pocatello Field Office in Southeastern Idaho. The Pocatello Proposed RMP EIS describes the proposed lease area as having a high potential for occurrence of oil and gas resources, but describes the potential for oil and gas development such as drilling and completion of wells for fluid minerals production as low (USDOI BLM, 2010). This is due to the highly complex geology and to the fact that, despite the drilling of numerous exploration wells, there are no producing oil and gas wells or fields within the BLM Pocatello Field Office administrative boundary. The lease nomination area occurs within a geologic province called the Wyoming Thrust Belt Province. The Wyoming Thrust Belt was developed by east-directed compression during the Late Jurassic to Late Cretaceous Sevier Orogeny which resulted in a series of highly folded and faulted stacked thrust sheets that are progressively younger in age to the east. Major thrust faults in the Wyoming Thrust Belt Province include the Paris-Willard, Meade, Crawford, Absaroka, Hogsback-Darby, and Prospect. Thrust loading and structural deformation in the Wyoming Thrust Belt has resulted in a complex evolution of petroleum systems making exploration difficult and limiting drilling success (USDOI USGS, 2017).

Two recent wildcat wells have been drilled on lands in close proximity to the lease sale and have been drilled to depths at approximately 7000 feet targeting the Jurassic Stump – Preuss Sandstone. The CPC 17-1 Well was drilled in 2007 within Township 3 South, Range 43 East, Boise Meridian, NWSW of Section 17 and the Federal 20-3 Well was drilled in 2017 within Township 3 South, Range 43 East, Boise Meridian, S $\frac{1}{2}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$  and NE $\frac{1}{4}$ SW $\frac{1}{4}$  of Section 20. Neither of the wells resulted in the discovery of an oil or gas resource, and were plugged and abandoned following drilling.

Based on the area's geology, the lack of access to some of the tracts in the parcel, and the steep topography of the individual tracts that comprise the parcel, combined with the exploration history of the area, BLM concludes it is reasonably foreseeable that, if the lease is sold, only one wildcat well would be drilled within the lease area. The well is unlikely to be productive, and would be plugged and abandoned after testing. The estimated surface disturbance, from well pad and access road construction, would be approximately 14 acres.

This proposed disturbance caps is unlikely to impact Oil and Gas Development in Idaho unless significant oil gas resources were discovered within Idaho which appears unlikely.

Additionally, there are restrictions on where and how energy facilities and salable mineral mining facilities are developed in PHMA and IHMA as well as requirements for offsetting impacts through mitigation to achieve a no net loss to Greater Sage-Grouse. The 2015 ROD/ARMPA's density cap did not apply to locatable minerals development, which is authorized under the Mining Law of 1872.

**Appendix E:** Removal of extraneous portions of Appendix E as described in **Chapter 2** [of the 2018 Final EIS] would not have any impact on Greater Sage-Grouse conservation or on development in Idaho above what is described in MD SSS 27 above.

#### 4. Modifying Lek Buffers

**MD SSS 35:** Lek Buffers would remain the same in PHMA, which includes approximately 67 percent of the known occupied leks. There would be no effect to Greater Sage-Grouse in PHMA.

IHMA, which has approximately 25 percent (279) of the known occupied leks, would use the USGS Literature Minimum Buffers which are smaller than the buffers identified for use in the 2015 ROD/ARMPA. Little IHMA would be protected by the proposed buffers (Maximum of 25 percent for the largest buffer). Other restrictions in IHMA such as RDFs, Mitigation, Disturbance cap, and NSO with limited exception would serve to ensure responsible development; however, infrastructure and development would be allowed much closer to leks, subject to the before mentioned restrictions. The energy and infrastructure development threat to Greater Sage-Grouse habitat loss is inconsequential in Idaho when compared to the wildfire and invasive species threat. There is very little new development of energy and infrastructure in PHMA or IHMA. The reduction of buffers in IHMA would not result in increased development around every or even most leks because disturbance in BLM HMAs is limited and not the major threat to Greater Sage-Grouse habitat, however where development occurs nearer than the buffers identified in the No Action those leks would be at an increased risk of being abandoned.

Removing the lek buffers in GHMA would affect approximately 6 percent (approximately 62) of the known occupied leks in Idaho. These leks are scattered across almost 2 million acres of GHMA. The currently implemented buffers protect a maximum of 261,683 (approximately 13 percent) acres of GHMA from certain types of development. On a project specific basis BLM would continue to avoid and minimize impacts to the extent practicable within GHMA. Removing buffers from GHMA should encourage development outside of PHMA or IHMA but only a maximum of 13 percent of GHMA was unavailable for development based on the largest buffers in the 2015 ARMPA. This represents a very small percentage of the total Greater Sage-Grouse habitat in Idaho. As mentioned above GHMA is of lower quality or connectivity when compared to PHMA and IHMA.

The reduced buffer distance in IHMA and the removal of buffers in GHMA would improve alignment with the Governor's Plan by having the most restrictive management in PHMA and reducing those restrictions in IHMA and further reducing restrictions in GHMA. As can be seen in **Table 4-5** below, the amount of habitat protected under the buffers in the Management Alignment Alternative is lower compared to the No Action Alternative.

**Appendix B:** Changes to Appendix B [of the 2018 Final EIS] reflect the changes made in MD SSS 35. No additional impacts above what is described in this section are anticipated.

**Table 4-5** displays the proposed buffers for each alternative along with the percent of the respective habitat protected by each buffer. Percentages have been rounded to the nearest whole percent for simplicity. Total Public Land acres for each designated habitat type are shown.

**Table 4-5  
Habitat Protected by Lek Buffers**

Action	PHMA (4,177,624 acres)		IHMA (2,675,251 acres)		GHMA (1,956,451 acres)	
	Buffer	Percent Protected	Buffer	Percent Protected	Buffer	Percent Protected
<b>No Action Alternative</b>						
Linear Features (roads)	3.1 Miles	71	3.1 Miles	47	3.1 Miles	13
Infrastructure Related to Energy Development	3.1 Miles	71	3.1 Miles	47	3.1 Miles	13
Tall Structures	2 Miles	47	2 Miles	27	2 Miles	5
Low Structures	1.2 Miles	24	1.2 Miles	13	1.2 Miles	2
Surface Disturbance	3.1 Miles	71	3.1 Miles	47	3.1 Miles	13
Noise and Disruptive Activities	0.25 Miles	1	0.25 Miles	1	0.25 Miles	0
<b>Management Alignment Alternative</b>						
Linear Features (roads)	3.1 Miles	71	0.25 Miles	1	No Buffer	0
Infrastructure Related to Energy Development	3.1 Miles	71	2 Miles	27	No Buffer	0
Tall Structures	2 Miles	47	0.6 Miles	4	No Buffer	0
Low Structures	1.2 Miles	24	0.12 Miles	0	No Buffer	0
Surface Disturbance	3.1 Miles	71	2 Miles	27	No Buffer	0
Noise and Disruptive Activities	0.25 Miles	1	0.25 Miles	1	No Buffer	0

## 5. Including Waivers, Exceptions and Modification on NSO Stipulations

MD MR 1: The removal of the SFA designation would leave those lands with the protections of PHMA. Idaho has very little fluid mineral leasing potential with only one producing oil and gas well and one proposed lease in the state. Idaho has only a couple of operating geothermal energy developments. The change from NSO with no exception to NSO with limited exception should not result in increased habitat loss or degradation because the proposed exception criteria and screening and development criteria require offsetting impacts to achieve a no net loss to Greater Sage-Grouse or its habitat. The limited exception would allow BLM to develop fluid mineral leases in PHMA under limited situations consistent with its multiple use mandate.

MD MR 2: The analysis of removal of requirements to use buffers and RDFs in GHMA is found in this section under numbers 4. Modifying Lek Buffers and 6. Changing Requirements for Design Features.

MD MR 3: The analysis of removal of requirement for a net conservation gain is found in this section under 9. Modifying the Mitigation Strategy to Align with the State Mitigation Strategy. The removal of the requirement for a unanimous finding between BLM, USFWS, and the State of Idaho to grant an exception for NSO in fluid minerals development would be replaced with coordination with the technical and policy team, which would include both USFWS and the State of Idaho, and would still be required under the process described in MD SSS 44. This

change is expected to facilitate improved decision making and a more collaborative process for Greater Sage-Grouse management in Idaho while retaining BLM's decision-making authority.

MD MR 8: This management decision is redundant with MD MR 4 which is not proposed for change. This deletion would have no effect on Greater Sage-Grouse management but would reduce redundancy within the plan.

## **6. Changing Required Design Features (RDFs)**

MD SSS 32, MD MR 12, MD RE 1, MD LR 2: Applicable RDFs would continue to be required in PHMA and IHMA as described in Appendix C of the [2018 Final EIS], however RDFs would be treated as best management practices in GHMA. This would provide a little more flexibility for each field office to consider and select the appropriate BMPs for project authorizations in GHMA. This may result in reduced consistency between projects on which BMPs would be implemented in GHMA. On a project specific basis BLM would continue to avoid and minimize impacts to the extent practicable within GHMA. The analysis of removal of requirements to use buffers in GHMA is found in this section under *4. Modifying Lek Buffers*.

Appendix C [of the 2018 Final EIS] would be reorganized to facilitate easier use of the RDFs in projects. It has been reorganized to better reflect those RDFs that are generally applicable to most or all projects and those that generally apply only to specific projects. It also identifies where an RDF offers several options to achieve a certain outcome. This change is expected to reduce confusion and facilitate more effective implementation of the RDFs.

## **7. Modifying Habitat Objectives**

**SSS OBJ 2:** The added language only helps to clarify the appropriate context for using the Habitat Objectives in Table 2.2 of the 2015 Final EIS. This change should have no measurable impact on Greater Sage-Grouse conservation but should increase consistency in how Table 2.2 is applied across Idaho.

Adequate residual grass cover: Greater Sage-Grouse require adequate cover to conceal their nests and their movements near the nest. The amount and type of concealment varies, depending on the makeup of the nest site. Areas with densely branched sagebrush and abundant tall statured forbs may not need as much grass cover as areas with sparser sagebrush and low growing forbs. Connelly et al. (2000) recommends that Greater Sage-Grouse habitat be managed to ensure a healthy herbaceous understory that is at least 7 inches in height when chicks are hatching during the nesting season. Holloran et al. (2005) suggest that at least 4 inches of residual grass height is important for successful Greater Sage-Grouse nests. Seven inches is not a threshold where Greater Sage-Grouse nesting success suddenly disappears. Multiple studies have found successful Greater Sage-Grouse nests in areas that averaged less than 7 inches of herbaceous cover (Connelly et al. 2000). Areas with taller or columnar sagebrush or areas with less sagebrush may require grass heights taller than 7 inches in order to provide adequate cover (Connelly et al. 2000).

The predator community makeup of an area may also influence what type of cover is necessary to conceal nests. Greater Sage-Grouse nesting in areas with a low concentration of ravens may

require less overhead cover to allow a successful nest, compared with Greater Sage-Grouse nesting in areas with a high concentration of ravens; therefore, the focus is to develop a healthy and vigorous herbaceous understory that is capable of reproducing and maintaining itself on the landscape. The goal is to improve vigor, allow for reproduction and establishment, ensure properly functioning ecosystems, and then let Greater Sage-Grouse select suitable nesting habitats within those ecosystems.

Some ecological sites are not capable of consistently providing 7 or more inches of perennial grass height as concealment. In those areas, if Greater Sage-Grouse choose to nest there, they would have to rely on other types of concealment cover for their nests.

**VEG OBJ 3:** This MD is redundant with OBJ SSS 1 and so its deletion would not affect Greater Sage-Grouse conservation but would reduce redundancy in the 2015 Final EIS.

#### **8. Modifying Decisions for Livestock Grazing Commensurate with Threat Posed.**

**MD LG 15, MD LG 17, MD WHB 2:** Modifying the prioritization criteria for permit renewals, monitoring, and compliance helps the BLM focus on areas with current land health issues, instead of potentially spending extra time on areas that are in good condition at the expense of areas that have problems. This change is in line with current BLM policy and therefore would not have a measurable impact on Greater Sage-Grouse management.

**MD LG 16:** Removing the requirement to consider thresholds and responses during every grazing permit renewals in PHMA would reduce the BLM's NEPA process time by several days. This would be a minimal savings, given that most grazing permit renewal processes take multiple years to complete. The 2015 Final EIS had no requirement for the BLM to select the threshold and response alternative, only to consider it. Additionally, the BLM Grazing Regulations (CFR 4100) provide authority for the BLM to take the appropriate action, which at times may include thresholds and responses; therefore, this change would have no measurable impact on Greater Sage-Grouse conservation or on livestock grazing management.

#### **9. Modifying Mitigation Strategy to Align with the State Mitigation Strategy Including Standards for No Net Loss.**

**MD MT 3, MD SSS 30, MD LR 14, MD MR 2, MD REC 2:** Changing the mitigation standard from a "Net Conservation Gain" to a "No Net Loss" standard would reduce the amount of habitat that would be restored, improved, or protected by the difference between a net gain and a no net loss. This difference has not been defined by the BLM and has varied, based on the proponent's willingness to provide mitigation beyond the minimal net gain standard. Proponents would continue to vary in their willingness to provide mitigation that goes beyond the no net loss standard.

Under either standard, the BLM is ensuring that development projects would not result in a net harm to Greater Sage-Grouse or its habitat. This change would not result in a net loss of current Greater Sage-Grouse habitat; however, a future benefit, based on compensatory mitigation, would not be realized above and beyond current condition.

It is not possible to state how much benefit would be derived from the net conservation gain standard for Greater Sage-Grouse or its habitat. The 2015 Final EIS continues to require extensive vegetation treatment to restore Greater Sage-Grouse habitat. Compensatory mitigation would continue to occur in PHMA and IHMA, which would be additive to the ongoing vegetative treatments.

Since the Final EIS was implemented in 2015, there have been six non-BLM projects subject to the plan that were approved on BLM-administered land. These would result in new habitat loss and degradation of designated Greater Sage-Grouse habitat. These projects had a total of approximately 22 functional acres of new disturbance.

Additionally, there were two large-scale transmission line projects that were specifically exempted from the 2015 Final EIS: Gateway West and Boardman to Hemingway. These two projects disturbed, or will disturb, many more functional acres than the other projects combined, but the total calculations for functional acres have not been completed.

Idaho has very few of these large-scale projects occurring each year, and the six projects with new habitat loss in a 2-year period with periodic large-scale projects is likely similar to what would be expected in the future. The acres of habitat not restored because of the reduction in the mitigation standard from net gain to no net loss would be much less than one percent of the vegetation treatments completed each year.

Mitigation would not be required in GHMA, and a primary goal of the Governor's Greater Sage-Grouse plan is to push development out of PHMA and IHMA into GHMA or outside of habitat; therefore, Greater Sage-Grouse in GHMA or outside designated habitat would be at increased risk of habitat loss or displacement; however, this area typically contains lower quality or marginal Greater Sage-Grouse habitat.

The BLM would continue to avoid and minimize impacts in GHMA, but there would be loss and degradation of habitat. This change would encourage proponents to develop in GHMA or outside of Greater Sage-Grouse habitat. This is because it would be less expensive but unlikely to spur a boom of development in GHMA. Six percent of occupied leks in Idaho would be at an increased risk of loss and degradation.

## **10. Refining Adaptive Management Strategy**

**MD SSS 15:** This change of analyzing the trigger data from twice a year to once a year clarifies that, although there are two different types of adaptive management data collected each year, they are most effectively analyzed at the same time. This would have no measurable effect on Greater Sage-Grouse conservation.

**MD SSS 24:** This clarifies that actions recommended by the technical and policy teams may have a different time frame or applicable area from the automatic hard trigger responses. No effect to Greater Sage-Grouse conservation is expected.

**MD SSS 20:** Under the No-Action Alternative, significance is set at the 90 percent confidence interval for both hard and soft population triggers; however, changing the soft trigger to an 80

percent confidence interval would provide the technical and policy teams with an early warning of potential problems and would allow a timely response to prevent a hard trigger trip. This would allow the BLM and the State of Idaho with their partners to do a causal factor analysis and recommend actions to prevent further declines and potential hard trigger trips. This may not make a measurable change in Greater Sage-Grouse conservation, but it would facilitate earlier warning of potential problems.

## 11. Salable Minerals

**MD MR 11:** The language in the 2015 Final EIS caused confusion, and this change helps to clarify management around mineral materials in PHMA. No new commercial pits would be allowed, but continued use of existing pits would be allowed. Free-use permits are offered to counties to help maintain county roads. New free-use pits and expansion of existing pits would be allowed only under limited conditions in PHMA. Buffers, RDFs, and a no net loss mitigation standards would apply. This would reduce the counties' costs of hauling gravel, but the restrictions and mitigation should continue to protect Greater Sage-Grouse habitat.

Since the 2015 Final EIS was implemented, Idaho has authorized only four salable mineral projects in the entire state inside and outside of Greater Sage-Grouse habitat. All four of these gravel pit authorizations were for county free-use permits that provide gravel to the counties to maintain county roads. Salable minerals development does remove Greater Sage-Grouse habitat. Most pits in Greater Sage-Grouse habitat in Idaho are free-use pits that tend to be fairly small (compared with commercial pits) and are only periodically active.

According to the 2015 Final EIS, there were 120 salable minerals sites on public land in Idaho, and most gravel pits ranged from 5 to 15 acres (Section 3.12.1). Based on those numbers, there is a maximum of 1,800 acres of Greater Sage-Grouse habitat currently lost due to gravel pits on public land. If the number of gravel pits doubled in the next 20 years there would still be only 3,600 acres, or 0.041 percent, of Greater Sage-Grouse habitat lost to gravel pits. Given the recent rate of development, it is unlikely that gravel pits would double in 20 years within Greater Sage-Grouse habitat in Idaho. The effects on Greater Sage-Grouse would be negligible.

As only four new free-use authorizations have been issued since 2015 in all of Idaho, allowing limited exceptions within PHMA would have little or no measurable effect on Greater Sage-Grouse conservation. The analysis of removal of requirements to use buffers in GHMA is found in 4, *Modifying Lek Buffers*.

## 4.5 IMPACTS OF THE 2018 PROPOSED PLAN AMENDMENT

The impacts of the 2018 Proposed Plan Amendment are the same as those described in Section 4.4 above for the Management Alignment Alternative, with the exception of the specific changes and their impacts discussed in this section. **The Management Alignment Alternative was changed to address comments raised during the public's review of the Draft EIS.**

### 4.5.1 Modifying Lek Buffers

The USGS reviewed and summarized the science regarding Greater Sage-Grouse avoidance or lek abandonment related to the proximity of certain types of infrastructure development; this review is

incorporated by reference (USGS Report Conservation Buffer Distance Estimates for Greater Sage-Grouse—A Review [Open File Report 2014-1239]). In the introduction to its report, the USGS indicated that it was not going to make specific recommendations. This was because the variability of impacts across Greater Sage-Grouse habitat suggest that no single distance is appropriate for all populations and habitats. The report indicates that surface disturbance, including linear features, energy development, tall structures, short structures, and noise, are avoided by or reduce survivability of Greater Sage-Grouse to varying extents, depending on local conditions and circumstances.

MD SSS 35: Lek Buffers would remain the same in PHMA, which includes approximately 67 percent of the known occupied leks. There would be no effect to Greater Sage-Grouse in PHMA.

***The 2018 Proposed Plan increased the size of some buffers in IHMA as a direct result of public comments received about the Management Alignment Alternative.*** Under tall structures, the buffer for transmission lines and towers would increase from 0.6 to 2 miles; however, it could be reduced to 1.2 miles through exception criteria (see Appendix B [of the 2018 EIS]). This would increase the portions of IHMA protected from tall structures from about 3.7 percent to at least 12.5 percent (1.2-mile buffer) or 26.9 percent (2-mile buffer). Distribution lines would remain with a 0.6-mile buffer. Communication and meteorological tower buffers would increase to 2 miles, which could increase the portion of IHMA protected from these developments from about 3.7 percent to about 26.9 percent. The buffer for low structures would increase from 0.12 miles to 0.6 miles, which would increase the portion of IHMA protected from these types of developments from about 0.16 percent to about 3.7 percent. The buffer for temporary noise disturbance would increase from 0.12 miles to 0.25 miles, which would increase the portion of IHMA protected from these types of developments from about 0.16 percent to about 0.7 percent. The increase in these buffers expands the protections around leks and should decrease the likelihood of leks being abandoned. IHMA contains approximately 25 percent of the known occupied leks and approximately 22 percent of breeding males in Idaho and so these increases would increase protections for a sizable portion of Greater Sage-Grouse in Idaho, compared with the Management Alignment Alternative.

***The 2018 Proposed Plan requires buffers in GHMA. This change was made between draft and final because of public concern about reducing buffer distances in the Management Alignment Alternative analyzed in the 2018 Draft EIS.*** GHMA contains approximately 6 percent of occupied leks, most of which are small and in fragmented habitat. The buffers increase protections immediately around leks and will result in greater protections, compared with the Management Alignment Alternative.

Overall, the impacts of the changes to lek buffers in GHMA increase protections for Greater Sage-Grouse, compared with what was considered in the Management Alignment Alternative; however, they are not quite as protective as those in the No-Action Alternative.

The 2018 Final EIS changed the RDF related to sustained noise to a 2-mile buffer in all habitat management areas. This restriction in the plan removes the seasonal nature of the restrictions. This increases protections for Greater Sage-Grouse in all habitat management areas from repetitive and sustained noise within 2 miles of leks.



#### **4.5.2 Including Exceptions to NSO Stipulations**

MD MR 8 would have been deleted under the Management Alignment Alternative, but it was kept in the 2018 proposed plan because of public comment. The decision required the BLM to include stipulations to avoid and minimize impacts on Greater Sage-Grouse in leases. This decision expresses in general terms what the entire planning process intends to do, that is, to ensure protection of Greater Sage-Grouse. Keeping this decision does not change the impacts on Greater Sage-Grouse.

#### **4.5.3 Changing Requirements for Design Features**

The 2018 Final EIS clarifies and strengthens how BMPs are to be implemented in GHMA. They should be applied unless they are technically or economically impracticable. This change would improve the consistency of application of BMPs in GHMA above what is described in the Management Alignment Alternative, but it is less prescriptive than the No-Action Alternative.

#### **4.5.4 Modifying Decisions for Livestock Grazing Commensurate with Threat Posed.**

The changes to livestock grazing management decisions are largely editorial and focus on clarifying the need to rely on the 4100 grazing regulations and the Idaho Standards for Rangeland Health. Additionally, the changes clarify that the BLM needs to consider Greater Sage-Grouse population trends and adaptive management triggers when prioritizing grazing permit renewals, monitoring, and compliance checks. These changes do not change the expected impacts from what was described above.

#### **4.5.5 Modifying the Mitigation Strategy to Align with the State Mitigation Strategy**

The BLM has determined that FLPMA does not require the BLM to mandate public land users to provide compensatory mitigation as a condition of obtaining authorization for the use of the public lands. The BLM further determined that FLPMA does not limit the ability of public land users to voluntarily offer to provide compensatory mitigation, for public land users to provide compensatory mitigation to satisfy state recommendations or standards, or for the BLM to take such voluntary or state-focused efforts into account when assessing the overall environmental impact of a proposed action. Consistent with that determination and with BLM IM 2018-093, *Compensatory Mitigation*, the Proposed Plan Amendment clarifies how voluntary compensatory mitigation or a state recommended mitigation should be considered in the management of Greater Sage-Grouse habitat. This clarification aligns the Proposed Plan Amendment with BLM policy and the scope of compensatory mitigation authority expressly provided by FLPMA.

Compensatory mitigation is meant to be an additional tool that, in the best circumstances, can attempt to offset residual impacts remaining after applying other mitigation actions. It does not supplant other tools under the mitigation hierarchy, including avoiding and minimizing on-site impacts.

Further, it is impossible to predict the amount of compensatory mitigation that might voluntarily occur in the future and the environmental consequences of that compensatory mitigation. Therefore, analysis of the environmental impact of compensatory mitigation is more appropriate for future project-specific NEPA, where it is possible to assess any project-specific compensatory mitigation that is offered voluntarily or to satisfy state recommendations or standards, in addition to the benefits already gained through other forms of mitigation, including avoidance, minimization, and rectification measures applicable to the specific project and site.

Thus, the effects of these changes to the BLM's approach to compensatory mitigation are speculative and nominal at most. The BLM will continue to ensure consistency of its actions and authorizations with the land use planning level goals and objectives of the Proposed Plans. The implementation of compensatory mitigation actions will be directed by MOAs that describe how the BLM will align with State authorities and incorporated in the appropriate NEPA analysis subsequent to the 2018 Final EIS. While the conservation benefit of compensatory mitigation may be limited when weighed against the threats to Greater Sage-Grouse, particularly in the Great Basin region where wildland fire remains a key threat, the BLM is committed to implementing State recommended mitigation requirements to help minimize the impacts of anthropogenic disturbance and habitat fragmentation throughout the range of Greater Sage-Grouse.

Further, the BLM is committed to implementing beneficial habitat management actions to reduce the threats of fire and invasive species to Greater Sage-Grouse. The BLM has committed resources to habitat restoration and has treated over 2.6 million acres of Greater Sage-Grouse habitat range-wide over the past 5 years. In fiscal year 2019, the BLM funded approximately \$38 million in Greater Sage-Grouse management actions resulting in approximately 632,000 acres of treated habitat. In Fiscal Year 2020, the BLM invested approximately \$37 million in the implementation of habitat management projects resulting in approximately 584,000 acres of treated habitat.

In 2015, the USFWS determined Greater Sage-Grouse was "not warranted" for listing under the Endangered Species Act. The USFWS found that BLM's 2015 land use plans were adequate regulatory mechanisms and that the species no longer warranted listing under the Act. At the time of that decision, USFWS acknowledged the RMP requirements that compensatory mitigation achieve a net gain standard. The BLM is not proposing any action that would preclude proponents from offering compensatory mitigation; it is clarifying the BLM's reliance on voluntary compensatory mitigation consistent with federal law.

Anecdotally, the existing conservation credit systems, banks, and exchanges designed to offset impacts to Greater Sage-Grouse or its habitat have had mixed success. The BLM is aware of three mitigation banks (one commercial bank agreement in Wyoming and two single-user bank agreements with mining companies in Nevada) and one exchange system in Colorado specific to Greater Sage-Grouse currently in operation. However, the BLM does not have access to data or information that would further assess the relative benefit provided by these systems.

To align with the State of Idaho's Greater Sage-Grouse management goals, in all designated Greater Sage-Grouse habitat, the BLM ensures both mitigation and management actions that achieve the planning-level management goals and objectives identified in this RMPA. The BLM has a variety of tools available to effectively achieve those management goals such as restoration projects and habitat improvements.

The BLM will continue plan effectiveness monitoring to provide the data needed to evaluate BLM actions toward reaching the goals and objectives set forth in the RMPAs. Effectiveness monitoring methods will encompass multiple larger scales, from areas as large as the WAFWA MZ to the scale of this RMPA. Effectiveness data used for these larger-scale evaluations will include all lands in the area of interest, regardless of surface management, and will help inform where finer-scale evaluations are needed.

#### 4.5.6 Appendix C (Required Design Features)

RDF 2: This RDF was moved into Appendix B [of the 2018 EIS] to become a buffer applicable to all habitat management areas. This change has no effect on the impact analysis in the Draft EIS.

RDF 3: This change just clarifies that fuels treatments are not considered anthropogenic disturbance. This does not change the effects analysis from the Management Alignment Alternative.

RDF 9: Removal of this RDF reduces confusion. A more detailed and clear requirement for collocation is already in the portion of the 2015 ARMPA not being changed by this amendment.

RDFs 97 through 104 were replaced by similar actions and direction from the Governor's plan. The New RDFs are numbered 100 to 114. These changes do not change the protections to Greater Sage-Grouse, compared with the Management Alignment Alternative.

#### 4.5.7 Appendix E

The addition of Part 6 that describes the no-net loss criteria for anthropogenic disturbance helps clarify the intent and process for evaluating projects to determine if they meet a no-net loss. These changes do not change the protections to Greater Sage-Grouse, compared with the Management Alignment Alternative.

### 4.6 CUMULATIVE EFFECTS ANALYSIS

This section presents the anticipated cumulative impacts on the environment that could occur from implementing the alternatives presented in **Chapter 2**. A cumulative impact is the impact on the environment that results from the incremental impact of the action, when added to other past, present, and reasonably foreseeable actions, regardless of what agency (federal or nonfederal) or person undertakes such actions.

Cumulative impacts can result from individually minor, but collectively significant actions taking place over time. The cumulative impacts resulting from the implementation of the alternatives in this FSEIS may be influenced by other actions, as well as activities and conditions on other public and private lands, including those beyond the planning area boundary. These include the concurrent Forest Service planning effort to amend land management plans for National Forests in Idaho, Montana, Nevada, Utah, Colorado, and Wyoming, which were previously amended in September 2015 to incorporate conservation measures to support the continued existence of the Greater Sage-Grouse. As a result, the sum of the effects of these incremental impacts involves determinations that often are complex, limited by the availability of information, and, to some degree, subjective.

This FSEIS incorporates by reference the analysis in the 2015 Final EISs and the 2016 SFA Withdrawal Draft EIS, which comprehensively analyzed the cumulative impacts associated with these planning decisions under consideration in that process. The 2015 EISs, and to some degree the 2016 SFA EIS evaluated the cumulative impacts associated with the No-Action Alternative in this FSEIS. The FSEIS's effects are effectively within the range of effects analyzed by the 2015 and 2016 EISs. The 2015 Final EISs are quite recent, and we have determined that conditions in the Great Basin (Idaho) have not changed significantly based, in part, on the USGS science review (see **Chapter 3**) as well as the BLM's review of additional past, present, and reasonably foreseeable actions in 2018. Conditions on public land have changed little since the 2015 Final EISs, and to the extent that there have been new actions or

developments, the impacts associated with those actions or developments are in line with the projections in the 2015 Final EISs regarding reasonably foreseeable actions and effects. Additionally, changes that have occurred on a smaller level, like wildfires, received prompt responses. Since the nature and context of the cumulative effects scenario has not appreciably changed since 2015, and the 2015 analysis covered the entire range of the Greater Sage-Grouse, the BLM's consideration of cumulative effects in the 2015 Final EISs adequately addresses most, if not all, of the planning decisions to be made through this planning effort.

While the cumulative impacts analysis in the 2015 Final EISs thus offers a comprehensive foundation for this planning effort, the BLM is improving upon that analysis by integrating additional quantitative analysis specific to this planning effort. The purpose of this additional analysis is to facilitate a comparison of allocation decisions between the No-Action Alternative and the Proposed Plan Amendment at scales beyond the individual planning areas associated with the 2018 amendment process. Our analysis focuses on the relevant changes in habitat delineations and allocation decisions each BLM state office is proposing and how those changes may impact our understanding of cumulative effects at the MZ scale.

Conservation and management partners sought to work in advance of the 2015 USFWS listing decision to develop conservation objectives for the Greater Sage-Grouse that could help direct conservation and management actions for the species. Upon further review of the best available science and commercial information, the USFWS concluded in 2010 that the Greater Sage-Grouse warranted protection under the ESA. Two factors leading to the decision to list the species as "warranted but precluded" were threats to habitat and the inadequacy of existing regulatory mechanisms. In 2012, at the request of the Greater Sage-Grouse Task Force, state and federal representatives produced a report that identified the most significant areas for Greater Sage-Grouse conservation, the principal threats within those areas, and the degree to which such threats need to be reduced or ameliorated to conserve the Greater Sage-Grouse so that it would not be in danger of extinction or likely to become so in the foreseeable future.

A principal component of Greater Sage-Grouse management is the implementation of mitigation actions to ameliorate the threats and impacts to Greater Sage-Grouse and its habitats. In 2015, the USFWS determined Greater Sage-Grouse was "not warranted" for listing under the ESA. The USFWS found that BLM's 2015 land use plans were adequate regulatory mechanisms and that the species no longer warranted listing under the ESA. At the time of that decision, the USFWS acknowledged the RMP requirements that compensatory mitigation achieve a net gain standard. The BLM is not proposing any action that would preclude proponents from offering compensatory mitigation; it is clarifying the BLM's reliance on voluntary compensatory mitigation consistent with federal law.

While the BLM has more than 90 RMPs, 9 strategies, and 45 agreements in active use that contain or address compensatory mitigation, the BLM has identified only limited implementation of compensatory mitigation consistent with the 2015 Greater Sage-Grouse Plans. Using data gathered in 2017, the BLM identified 13 Greater Sage-Grouse projects across 5 BLM states with a mandatory compensatory mitigation component or net gain standard implemented between October 2008 and June 2017. The most common compensatory actions used by the BLM in those cases were habitat restoration, habitat improvements, rangeland improvements, and invasive species control – actions consistent with the BLM's own investment in management action described previously. In many cases, it is still too soon in the implementation of these mitigation actions to measure the effectiveness or degree of benefit each action provides.

Currently BLM has six state-specific RMPA efforts that are all aligning mitigation with their relevant State authorities. All of the Proposed Plan Amendments modify the existing standard for compensatory mitigation but maintain that the BLM will pursue conservation efforts as a broader planning goal and objective. Cumulatively, if the BLM is implementing planning decisions across the broader range, such actions would preclude any cumulative impacts from modifying the net conservation gain standard at the project level.

The BLM has updated certain data that it collected and evaluated in the 2015 Final EIS concerning the 2015 plan allocation decisions to reflect maintenance-related changes, adaptive management responses, and refined source data. The BLM used these data to represent the No-Action Alternative for the current plan analysis. The BLM also identified 2015 data which are not subject to change in any alternatives associated with the 2019 planning process. These data were carried forward as the alternative allocation decision data. The BLM was also able to provide allocation decision data representing changes included in the 2018 Draft EIS alternatives, which were then used in the comparative analysis.

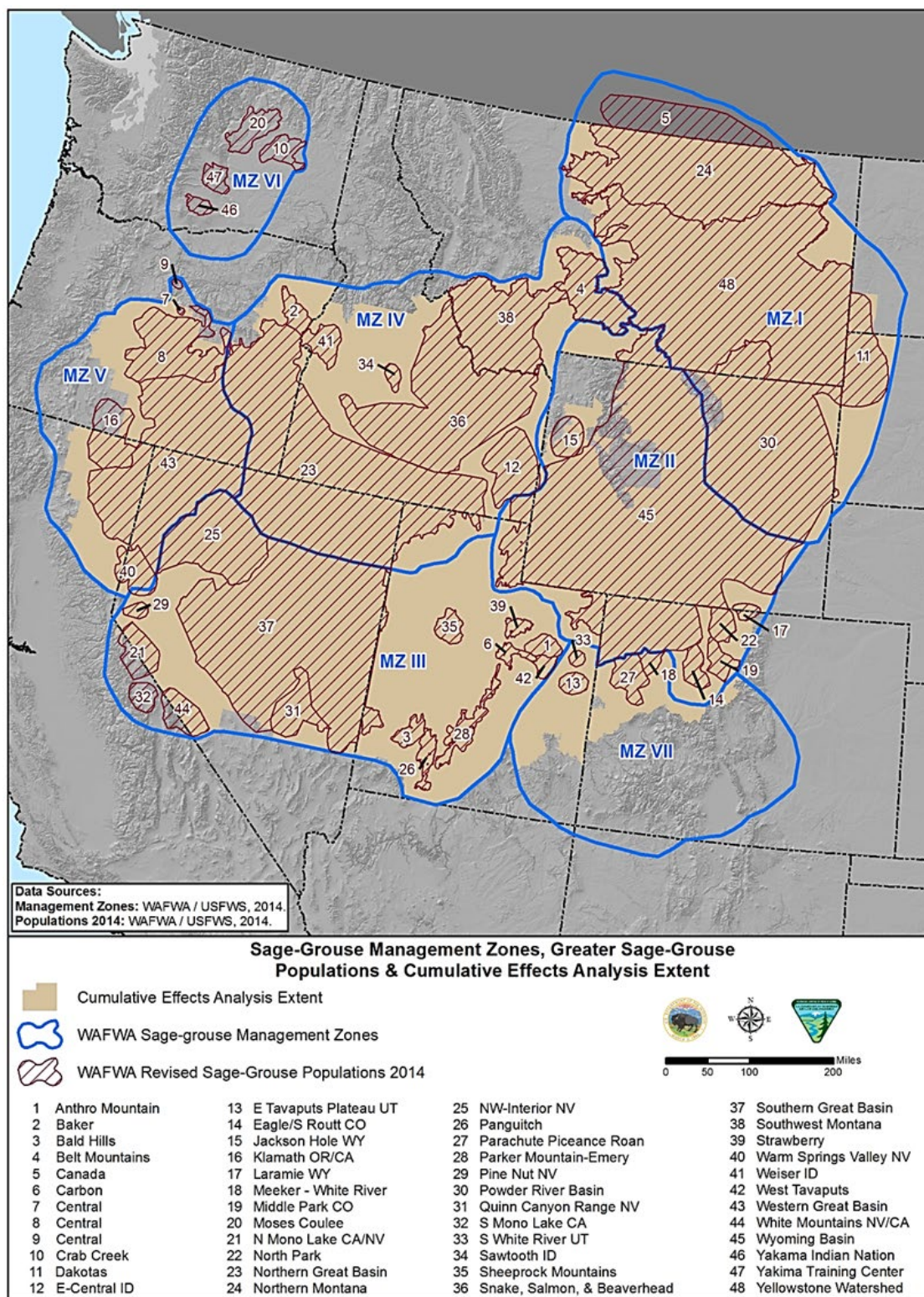
The BLM analyzed cumulative effects at two levels in the 2019 planning process. Each state analyzed cumulative effects across the sage-grouse range by considering, across each state, reasonably foreseeable future actions and their effects in every WAFWA management zone (excluding WAFWA Zone VI). Each state further analyzed cumulative effects at the WAFWA management zone level for their state. See **Section 4.6.1** and **Table I** in **Appendix S-2** for the range-wide analysis, which addresses the cumulative effects from reasonably foreseeable future actions across all WAFWA management zones, including those that do not connect directly to Idaho. See Idaho's WAFWA management zone analysis in Sections 4.6.4 and 4.6.6 below. Both analyses use WAFWA Management Zones. Idaho's WAFWA Zone analysis included Zones IV and II that include Idaho, and parts of Oregon, Utah, Montana, and Wyoming (**Figure 4-1**).

#### **4.6.1 Range-wide Cumulative Effects Analysis – Greater Sage-Grouse**

The 2015 ARMPA is the No-Action Alternative in this FSEIS and was part of the cumulative impact analysis for Greater Sage-Grouse at the WAFWA zone scale in the 2015 Final EIS (see **Table 4-1**). Additionally, the cumulative impacts anticipated from the Management Alignment Alternative and the 2018 Proposed Plan Amendment presented in this FSEIS are entirely within the range of effects analyzed by the 2015 Final EIS. While the analysis for the 2015 Final EIS is quite recent, the BLM has reviewed conditions in Idaho to verify that they have not changed significantly. Conditions on BLM-administered lands have changed little since the 2015 Final EIS, and to the extent that there have been new actions or developments, the impacts associated with those actions or developments are in line with the projections in the 2015 Final EIS regarding reasonably foreseeable future actions and effects.

The BLM's assessment that conditions and cumulative impacts have not changed significantly is based, in part, on the USGS science review (see **Chapter 3**) and the BLM's review of additional past, present, and reasonably foreseeable actions in 2018. Since the nature and context of the cumulative effects scenario have not appreciably changed since 2015, and the 2015 plans included analysis by WAFWA MZ across the entire range of the Greater Sage-Grouse, the cumulative effects analysis in the 2015 Final EIS applies to this planning effort and provides a foundation for the BLM to identify any additional cumulative impacts.

**Figure 4-I – Cumulative Effects Analysis Extent, Sage-Grouse Management Zones and Populations**





The remainder of this chapter and related appendices includes additional quantitative analysis using the existing cumulative impacts across the range and integrating additional quantitative analysis specific to this planning effort to provide a comprehensive range-wide view of cumulative impacts. The purpose of this additional analysis is to facilitate a comparison of allocation decisions between the No-Action and Management Alignment (2018 Proposed Plan Amendment) Alternatives at scales beyond the individual planning areas associated with the 2019 amendment process. The analysis focuses on the relevant changes in habitat delineations and allocation decisions each BLM state office is proposing and how those changes may affect the understanding of cumulative effects at the WAFWA MZ scale across the range of Greater Sage-Grouse.

Under the Management Alignment Alternative, the recommendation to withdraw sagebrush focal areas (SFA) from location and entry under the Mining Law of 1872 would be removed, as the EIS process considering the proposed withdrawal was canceled on October 11, 2017. In its 2016 SFA Withdrawal EIS, the BLM quantified the possible adverse effects from locatable mineral exploration and mining on the approximately 10 million acres of SFAs proposed for withdrawal, finding that they would be limited to approximately 9,000 acres rangewide of surface disturbance over 20 years, with approximately 0.58 percent of Greater Sage-Grouse male birds possibly affected per year. The other action alternatives evaluated in the 2016 SFA Withdrawal Draft EIS similarly demonstrated negligible benefit of the proposed withdrawal to Greater Sage-Grouse and its habitat.<sup>1</sup>

The cumulative effects of implementing the Management Alignment Alternative are as described in the 2016 SFA Withdrawal Draft EIS, under the No-Action Alternative, in which SFAs are not carried forward for withdrawal. Greater Sage-Grouse would not be affected as a result of the removal of the recommendation to withdraw SFAs from location and entry under the Mining Law of 1872, as the recommendation itself does not have any on-the-ground effects. Conservation benefits of a future withdrawal would be minimal, as documented in the 2016 SFA Withdrawal Draft EIS and as explained above; therefore, there would be negligible cumulative impacts associated with the decision to remove the SFA designation. The direct and indirect impact analysis specifically enumerates how each BLM allocation decision to apply NSO stipulations and waivers, exceptions, or modifications overlaps with the SFA designation.

#### **4.6.2 Why Use WAFWA Management Zones?**

The WAFWA represents state and provincial fish and wildlife agencies and supports sound resource management and building partnerships to conserve wildlife for the use and benefit of all citizens, now and in the future.

The BLM is analyzing habitats and allocation decisions at the scale of the six WAFWA delineated Greater Sage-Grouse MZs within which the plan amendments are occurring to enable the decision maker to understand the impacts on Greater Sage-Grouse at a biologically meaningful scale. The MZs were delineated based on floristic provinces (identified by Connelly et al. 2004) within which the

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<sup>1</sup>Importantly, mining operations that do occur are subject to regulation under the BLM's surface management regulations at 43 CFR 3809. These regulations ensure that operators comply with environmental standards in conducting exploration, mining, and reclamation. For example, the BLM must approve a plan of operations for locatable mining operations on public lands, which includes compliance with the NEPA, National Historic Preservation Act, and ESA. Plans of operation must also include those measures to meet specific performance standards and to prevent unnecessary or undue degradation of the lands (43 CFR 3809.411).

vegetative communities comprising Greater Sage-Grouse habitat as well as the Greater Sage-Grouse populations are responding similarly to environmental factors and management decisions (Stiver et.al. 2006).

The cumulative effects analysis area for Greater Sage-Grouse extends beyond a state, political, or planning area boundary to reflect the WAFWA MZs because they encompass areas with similar issues, threats, and vegetative conditions important Greater Sage-Grouse habitat management. Each suite of threats to specific Greater Sage-Grouse populations have been identified in the COT report, 2015 regional RODs, and listing decision]. The 2015 regional RODs identify how planning level allocation decisions address the identified threats to populations, which are aggregated in this analysis by MZs. The threats vary geographically and may have more or less impact on Greater Sage-Grouse and its habitat in some parts of the MZs, depending on such factors as climate, land use patterns, and topography.

**Table 4-6** shows the resource and location of applicable cumulative effects analysis from 2015 Final EIS. Unless otherwise addressed in this chapter, the cumulative effects of the alternatives analyzed in this FSEIS are covered by the 2015 Final EIS and the 2016 SFA Withdrawal Draft EIS. This includes the incremental impacts across the range of BLM- and Forest Service-administered lands being amended in concurrent plan amendment efforts. See the 2015 Final EIS for additional information.

**Table 4-6**  
**Cumulative Effects Analysis Incorporated by Reference**

Decision Topic	Related Resource Topic	2015 Final EIS, Chapter 5, Locations of Cumulative Effects Analysis
Modifying HMA boundaries	Greater Sage-Grouse	Section 5.1; pp. 1–87
Removing SFA designations	Greater Sage-Grouse	Section 5.1; pp. 1–87
	Minerals and energy	Section 5.3.7; pp. 168–170 Section 5.3.8; pp. 170–171 Section 5.3.9; pp. 171–172
	Livestock grazing	Section 5.3.4; pp. 162–164
	Wild Horse and burro	Section 5.3.2; pp. 159–160
Adjusting disturbance and density caps	Greater Sage-Grouse	Section 5.1; pp. 1–87
	Minerals and energy	Section 5.3.7; pp. 168–170 Section 5.3.8; pp. 170–171 Section 5.3.9; pp. 171–172
	Socioeconomics	Section 5.3.13; pp. 174–177
	Lands and realty	Section 5.3.6; pp. 165–168
Modifying lek buffers	Greater Sage-Grouse	Section 5.1; pp. 1–87
	Minerals and energy	Section 5.3.7; pp. 168–170 Section 5.3.8; pp. 170–171 Section 5.3.9; pp. 171–172
	Socioeconomics	Section 5.3.13; pp. 174–177
	Lands and realty	Section 5.3.6; pp. 165–168
	Livestock grazing	Section 5.3.4; pp. 162–164
	Recreation	Section 5.3.5; pp. 164–165
Including waivers, exceptions, and modifications on NSO stipulations	Greater Sage-Grouse	Section 5.1; pp. 1–87
	Minerals and energy	Section 5.3.7; pp. 168–170 Section 5.3.8; pp. 170–171 Section 5.3.9; pp. 171–172



Decision Topic	Related Resource Topic	2015 Final EIS, Chapter 5, Locations of Cumulative Effects Analysis
Changing requirements for design features	Greater Sage-Grouse	Section 5.1; pp. 1–87
	Land use and realty	Section 5.3.6; pp. 165–168
	Minerals and energy	Section 5.3.7; pp. 168–170
		Section 5.3.8; pp. 170–171
		Section 5.3.9; pp. 171–172
	Socioeconomics	Section 5.3.13; pp. 174–177
	Livestock grazing	Section 5.3.4; pp. 162–164
Modifying habitat objectives	Greater Sage-Grouse	Section 5.1; pp. 1–87
Modifying decisions for livestock grazing commensurate with the threat posed	Greater Sage-Grouse	Section 5.1; pp. 1–87
	Livestock grazing	Section 5.3.4; pp. 162–164
Modifying the mitigation strategy to align with the state mitigation strategy, including standard for no net loss	Greater Sage-Grouse	Section 5.1; pp. 1–87
	Socioeconomics	Section 5.3.13; pp. 174–177
	Livestock grazing	Section 5.3.4; pp. 162–164
	Minerals and energy	Section 5.3.7; pp. 168–170
		Section 5.3.8; pp. 170–171
		Section 5.3.9; pp. 171–172
	Land use and realty	Section 5.3.6; pp. 165–168
	Recreation	Section 5.3.5; pp. 164–165

Idaho's Management Alignment Alternative identified two types of impacts: a reduction in protections for Greater Sage-Grouse habitat, and an increase in flexibility for other uses within Greater Sage-Grouse habitat. While not every specific change proposed in the Management Alignment Alternative was highlighted and examined for its individual effects in the 2015 Final EIS, the range of protections and flexibility was definitely analyzed among the alternatives.

The 2018 Proposed Plan Amendment has moved Greater Sage-Grouse protections closer to the No-Action Alternative by increasing protections for Greater Sage-Grouse habitat as a direct result of Draft EIS comments. The Proposed plan carries forward the increased flexibility described in the Draft EIS.

The increased flexibility carried forward into the 2018 Proposed Plan Amendment would allow for responsible development of other uses in Greater Sage-Grouse habitat. It could reduce costs to proponents but is not expected to result in a flood of development proposals on public land. The increased protections from the 2015 Final EIS have not resulted in a large decrease in ROW applications or an increase in rejected applications; therefore, the changes proposed under the action alternatives are not expected to result in any changes to the rate of development in Idaho or in its economy.

Some 350 species rely on sagebrush steppe ecosystems, coexist with Greater Sage-Grouse, and may be similarly affected by development or disturbance. Nothing in the 2018 Proposed Plan Amendment would lessen the BLM's authority nor responsibility to provide for the needs of special status species, as described in BLM land use plans, policies, and laws, including Manual 6840, the ESA, and FLPMA.

Increased flexibility for other uses within Greater Sage-Grouse habitat does not necessarily increase potential impacts on other wildlife or plant species. A site-specific NEPA analysis, including an evaluation of impacts on special status species, is required for on-the-ground projects within the planning area.

The sum of past, present, and reasonably foreseeable actions listed in **Appendix S-2** represent cumulative effects across the range of Greater Sage-Grouse habitat and management areas. These effects are important to consider for future management of the species as a whole and are not solely being analyzed at the local or state level.

This section also briefly describes the threats to Greater Sage-Grouse and its habitat. The magnitude of change between the No-Action Alternative and Proposed Land Use Plan Amendments, by decision, is represented in pie charts and tables within this section and in **Appendix S-2**. Those effects, in addition to synthesizing the plan decisions and comparing the current condition to the condition that will be in effect when the proposed plans are finalized, allow for a comparison of the change in management direction within MZs and across planning regions.

The habitat fragmentation and disturbance from energy development, mining, and infrastructure remain the greatest threat to Greater Sage-Grouse in the Rocky Mountain region; the levels of development are within the range of projected wildland fire analyzed in the 2015 Final EIS. Wildfire threat remains a concern in the area as well and is the greatest threat to Greater Sage-Grouse in the Great Basin region. Between 2008 and 2018, wildfires burned an average of 900,000 acres per year in Greater Sage-Grouse habitat management areas range-wide<sup>2</sup>; this is within the range of projected wildland fire analyzed in the 2015 Final EIS. The BLM has committed resources to habitat restoration and has completed 1.4 million acres of treatments in Greater Sage-Grouse habitat range-wide over the past 5 years. The interagency (including BLM) WAFWA-led Wildfire and Invasive Species Working Group reviewed recent information for their May 2018 Gap Report Update to the Wildfire and Invasive Plant Species in the Sagebrush Biome: Challenges that hinder current and future management and protection report. They found that all of the original challenges related to control and reduction of the invasive annual grass/fire cycle were still relevant (policy, fiscal and science challenges) as well as pointing to three new gaps involving program capacity, resource specialists, and developing guidelines on drought and climate adaption to manage sagebrush ecosystems.

#### **4.6.3 Cumulative Effects on Greater Sage-Grouse: Management Zone I**

In addition to the analysis in the 2015 Final EIS other anticipated incremental impacts are discussed below in association with planning issues being analyzed in this FSEIS.

MZ I encompasses portions of Wyoming, Montana, North Dakota, and South Dakota. Montana is currently not undergoing a plan amendment process; therefore, none of the proposed changes described in this section apply to Greater Sage-Grouse in Montana. Under the Proposed Land Use Plan Amendments in WAFWA MZ I, PHMA and GHMA designations would not change from those identified in the No-Action Alternative. In addition, no changes in allocations are proposed in either of the planning areas in this MZ. Approximately 16 percent of the planning area across MZ I is designated as PHMA, and 38 percent is GHMA. Future adjustments to PHMA and GHMA in MZ I would be based on best available science and to align with the respective states' delineations for Greater Sage-Grouse habitat.

Wyoming's current planning effort, and Montana's existing plans, incorporate management flexibility to allow for site specific adjustments to land use plan authorizations for adaptive management strategies,

<sup>2</sup>Removing 2012 and 2017, which were above average wildland fire years, the 8-year average is approximately 500,000 acres burned per year.

livestock grazing management, and other proposed land uses. The use and application of compensatory mitigation in the planning area would follow the respective State plans, resulting in greater consistency across the MZ. For these actions, cumulative impacts on Greater Sage-Grouse habitat and populations across MZ I would be consistent with those impacts described in the 2015 Final EISs for the then Proposed Plan Amendments. The currently Proposed Land Use Plan Amendment changes from the No-Action Alternative are minor, and still maintain prescriptive management for Greater Sage-Grouse habitat across the MZ for surface disturbing activities. Disturbance from energy development, mining, and infrastructure, as well as the resulting habitat fragmentation, remain the greatest threat to Greater Sage-Grouse in the Rocky Mountain Region. Because the land use prescriptions and allocations are not proposed for change in Wyoming's land use plan amendment, there would be no additional cumulative impact on Greater Sage-Grouse populations or habitat within MZ I.

**A summary of potential cumulative impacts by proposed management action is presented below.**

Impacts on Greater Sage-Grouse as a result of surface disturbance would likely be greater where development and disturbance is more intense and in areas where development overlaps sensitive habitats. The degree of impact would depend on the timing of development activities and whether the amount of development activity and disruption outpaces successful reclamation and revegetation efforts in disturbed areas. Increased flexibility for updating habitat management areas across MZ I would not result in any additive impacts on Greater Sage-Grouse and could result in beneficial impacts as a result of consistent management across the zone. Any future modifications of habitat management areas would be documented using the appropriate level of NEPA analysis that would, as applicable, provide analysis regarding any potential impacts; however, because the underlying habitat management area allocations and the respective restrictions on those allocations put in place to conserve Greater Sage-Grouse would not change, and any proposed updates would reflect the most recent knowledge concerning Greater Sage-Grouse habitat use and distribution, there would be no appreciable additive impact from the implementation of this aspect on Greater Sage-Grouse habitat or population.

Approximately 99 percent of GHMA and PHMA habitat in MZ I is open to livestock grazing, and this is not proposed for change in Wyoming's proposed land use plan amendment; Montana is also not proposing any changes to livestock management at this time; therefore, no additional cumulative impacts beyond those identified in the 2015 Final EISs are anticipated. In general, livestock can influence habitat by modifying plant biomass, plant height and cover, and plant species composition. As a result, livestock grazing could cause changes in habitat; changes in plant composition could occur in varying degrees and could change vegetative structure, affecting cover for nesting birds; however, grazing can be used to reduce fuel loads and reduce the risk of wildfire and can also be managed to reduce the spread of invasive grasses.

Much of the landscape in MZ I is adapted to withstand grazing disturbance, having been grazed by bison before the West was settled. In addition, the BLM has applied Standards for Rangeland Health since 1997 in order to enhance sustainable livestock grazing and wildlife habitat while protecting watersheds and riparian ecosystems. Under proposed management in MZ I, the BLM would be able to adjust forage levels to meet rangeland health standards based on site-specific information that would inform livestock management decisions. While the Proposed Land Use Plan Amendment in Wyoming would remove the Greater Sage-Grouse specific language Management Action 4 (see Table 2-1, Permit Renewals, in the

Wyoming Proposed RMPA/Final EIS), the wildlife/special status species standards are emphasized. As Greater Sage-Grouse would continue to be considered at the implementation level with site-specific analysis, following management prescriptions analyzed in the 2014 and 2015 Final EISs, no additive impact of this change is anticipated.

#### ***Adaptive Management, Mitigation, and Prioritization of Leasing***

Similarly, no appreciable additive impacts are anticipated from Wyoming establishing a process whereby adaptive management actions are reviewed and reversed once the identified causal factor is resolved. This process would ensure that the BLM is utilizing the best available science and decision support tools to guide management at the appropriate spatial scale, thus improving the BLM's assessment and response to ever-changing conditions that could affect Greater Sage-Grouse populations and/or habitat, as well as ensuring that once causal factors are resolved, management reverts to pre-adaptive management actions. Because any specific response to tripping a hard or soft trigger would be based on the causal factors responsible, presuming a specific response to unknown future conditions would be speculative at best and not reasonably foreseeable. As Montana is not proposing to change any part of its adaptive management process, and Wyoming did not identify any additional direct or indirect impacts as a result of this proposed change, there are no additional cumulative impacts associated with the proposed changes to adaptive management implementation.

Under the Proposed Land Use Plan Amendment in Wyoming, language would be added to clarify how implementation-level decisions would be guided regarding mitigation and prioritization of fluid mineral leasing to better align with state conservation plans and management strategies. As identified in the direct and indirect effects section of this Final EIS, impacts on Greater Sage-Grouse would be minor as a result of these changes and could include localized detrimental impacts in some areas and beneficial impacts in others, but would not affect Greater Sage-Grouse conservation. As a result, there would be no appreciable additive impact from the implementation of these clarifications on Greater Sage-Grouse habitat or population across MZ I.

BLM's proposed land use plan amendments in MZ I are also unlikely to preclude the reasonably foreseeable actions listed in **Appendix S-2** from proceeding. Some small, localized populations may be at continued risk due to reasonably foreseeable infrastructure and energy development projects over the next 20 years, when combined with unplanned events such as wildfires, drought, and associated decline in Greater Sage-Grouse habitat quality; however, the 2018 proposed plan amendments retained conservation measures that would be applied consistent with state management plans. They would continue proactive habitat restoration efforts being completed by private, local, state, and federal partners across the MZ, to adequately conserve and manage Greater Sage-Grouse habitat.

#### **4.6.4 Cumulative Effects on Greater Sage-Grouse: Management Zone II/VII**

In addition to the analysis in the 2015 Final EIS, other anticipated incremental impacts are discussed below in association with planning issues being analyzed in this FSEIS.

MZ II/VII encompass portions of Wyoming, Colorado, Utah, Montana, and Idaho. Under the Proposed Land Use Plan Amendments in this MZ, PHMA would decrease by 1 percent and GHMA would decrease by 1 percent, compared to the acreage values in the No-Action Alternative. The proposed change in habitat management area acres reflects changes in Utah, where PHMA would be reduced by approximately 35,000 acres and GHMA (826,000 acres) would be removed in an effort to align with the

Greater Sage-Grouse Management Areas identified by the State of Utah. In Idaho, approximately 50,000 acres would change from PHMA to IHMA for population monitoring purposes; however, as a result of a tripped adaptive management trigger, the habitat would continue to be managed as PHMA, which results in no net change to overall acreages included in the habitat management areas. Across this MZ, no other modifications to habitat management areas are currently proposed. Montana is currently not undergoing a plan amendment process; therefore, none of the proposed changes described in this section apply to Greater Sage-Grouse in Montana.

In Colorado, in the No-Action Alternative, PHMA within 1 mile of active leks is closed to leasing. The proposed action would open 1 mile of active leks to leasing, subject to NSO stipulations with restrictive criteria for waivers, exceptions, and modifications. Although that allocation change would make additional acres available to leasing, the impact on Greater Sage-Grouse is likely to be minimal because surface disturbance, fragmentation, and indirect habitat loss would not be expected to increase due to restrictions on surface disturbance. Additionally, better coordination with the state provides more of an all-lands approach that, due to multiple jurisdictions with regulatory authority over land and mineral ownership, may result in better landscape-scale protections for Greater Sage-Grouse and Greater Sage-Grouse habitat.

For the remainder of the planning areas within MZ II and VII, land use plan allocations tied to habitat management areas did not change between the No-Action Alternative and the Proposed Land Use Plan Amendment.

The decrease in PHMA and GHMA as a result of better alignment with the State of Utah's Greater Sage-Grouse management plan between the No-Action Alternative and the Proposed Land Use Plan Amendment would have negligible to minimal impacts on Greater Sage-Grouse and its habitat in the context of the entire MZ. The reduction of PHMA was associated with timbered mountains that do not include Greater Sage-Grouse habitat. The removal of GHMA in Zones II and VII affects populations where the BLM has very little decision space (surface or mineral estates) or areas with very small populations that are already heavily affected by existing oil and gas development resulting in infrastructure at a density above what science has indicated Greater Sage-Grouse will persist. Additionally, the relevant distribution of land use plan allocations associated with these habitat management area changes would not significantly change (0-3 percent, see **Appendix S-2**).

The planning efforts being undertaken in this MZ would incorporate management flexibility in Colorado, Utah, and Idaho plans that would allow exceptions to allocation decisions similar to flexibility already in the Wyoming and Montana plans. These changes would allow for site-specific adjustments for land use authorizations based on site conditions. In addition, there would be adjustments to existing adaptive management strategies for all plans in this MZ. Within this MZ, all plans would remove the recommendation to withdraw SFAs from location and entry under the 1872 Mining Law, would make slight adjustments to habitat objectives, and Colorado and Idaho plans would identify new exceptions to seasonal timing restrictions to provide for consideration of site-specific conditions already present in the Utah, Wyoming and Montana plans.

Despite these actions, cumulative impacts on Greater Sage-Grouse populations and habitat across MZ II/VII would be consistent with those impacts identified in the 2015 Final EISs for the then Proposed Plan Amendments. The currently Proposed Land Use Plan Amendments change from the No-Action Alternative would be minor. Disturbance from energy development, mining, and infrastructure, as well

as the resulting habitat fragmentation, remain the greatest threat to Greater Sage-Grouse in the Rocky Mountain Region. Because the land use prescriptions within designated habitat management areas and the allocations associated with those habitat management areas are not being proposed for change in any plan in MZ II/VII, there would be no additional cumulative impacts on Greater Sage-Grouse across this MZ.

**A summary of potential cumulative impacts by proposed management action is presented below.**

Impacts on Greater Sage-Grouse as a result of surface disturbance would likely be greater where development and disturbance are more intense and in areas where development overlaps sensitive habitats. The degree of impact would depend on the timing of development activities and whether the amount of development activity and disruption outpaces successful reclamation and revegetation efforts in disturbed areas. Increased flexibility for updating habitat management areas across MZ II/VII would not result in any additive impacts on Greater Sage-Grouse and could result in beneficial impacts as a result of consistent management across these zones. Future modifications of habitat management areas would be documented using the appropriate level of NEPA that would, as applicable, provide analysis regarding any potential impacts; however, because the underlying habitat management area allocations and the respective restrictions on those allocations put in place to conserve Greater Sage-Grouse would not change, and any proposed updates would reflect the most recent knowledge concerning Greater Sage-Grouse habitat use and distribution, there would be no appreciable additive impact from the implementation of this aspect on Greater Sage-Grouse habitat or population.

The allocation exception process would be updated in Colorado, Utah, and Idaho to simplify the various exemptions contained in the 2015 Final EIS. While the availability of exceptions to land use plan allocations attached to PHMA and GHMA could increase the possibility of leasing, permitting, or ground-disturbing activities within a given habitat management area, the established criteria would ensure that projects are either in unsuitable Greater Sage-Grouse habitat; do not result in direct, indirect, or cumulative impacts on Greater Sage-Grouse; benefit Greater Sage-Grouse or its habitat; or can be offset, with the exception of those needed for public health and safety; therefore, there would be no appreciable additive impact from the implementation of this action on Greater Sage-Grouse or the resources/uses analyzed herein, as compared with the No-Action Alternative.

In MZ II/VII, approximately 216,000 acres of PHMA in Wyoming and 164,000 acres of PHMA in Utah were recommended for withdrawal from location and entry under the 1872 Mining Law in the current RMPs. This recommendation, if implemented through a future separate withdrawal action supported by its own NEPA, would apply to approximately 3 percent of the MZ. The proposed change to the withdrawal recommendation itself would not have any on-the-ground effects, and the conservation benefits of a future withdrawal would be minimal, as documented in the 2016 SFA Withdrawal Draft EIS and as explained above.

Approximately 99 percent of GHMA and PHMA in MZ II/VII is open to livestock grazing; this is not proposed for change in any states' land use plan amendments; therefore, no additional cumulative impacts beyond those identified in the 2015 Final EISs are anticipated. In general, livestock can influence habitat by modifying plant biomass, plant height and cover, and plant species composition. Improper livestock grazing could cause changes in habitat; changes in plant composition could occur in varying degrees and could change vegetative structure, affecting cover for nesting birds; however, proper grazing

can be used to reduce fuel loads and reduce the risk of wildfire and can also be managed to reduce the spread of invasive grasses. Specific impacts on Greater Sage-Grouse habitat from livestock grazing are incorporated by reference from the 2015 Final EIS. All ongoing planning efforts in MZ II/VII would make slight adjustments to habitat objectives, and, in Wyoming and Utah, would provide for more flexibility for making site-specific adjustments to livestock grazing management if the site-specific monitoring indicated adjustments were necessary.

Under the Proposed Land Use Plan Amendments, language would be added to clarify how some implementation level decisions, including mitigation, prioritization of fluid mineral leasing, disturbance caps, and clarification of required design features would be guided to better align with state conservation plans and management strategies. As identified in the direct and indirect effects section of this Final EIS, impacts on Greater Sage-Grouse would be minor as a result of these changes and could include localized detrimental impacts in some areas and beneficial impacts in others, but would not cumulatively compromise Greater Sage-Grouse conservation efforts throughout the individual states. As a result, there would be no appreciable additive impact from the implementation of these clarifications on Greater Sage-Grouse habitat or population across this MZ.

Similarly, no appreciable additive impacts are anticipated from updating the adaptive management process as described in the Proposed Land Use Plan Amendments. In Wyoming and Utah, this process would be updated at the implementation level to ensure that adaptive management actions are reviewed and reversed once the identified causal factor is resolved. In all states in this MZ, this update would ensure that the BLM is using the best available science and decision support tools to guide management at the appropriate spatial scale, thus improving the BLM's assessment and response to ever-changing conditions that could affect Greater Sage-Grouse populations and/or habitat. Because any specific response to tripping a hard or soft trigger would be based on the causal factors responsible, presuming a specific response to unknown future conditions would be speculative and not reasonably foreseeable.

In Idaho, removal of the project disturbance cap would not result in any changes to allocation decisions; rather, it would allow the BLM to cluster development in PHMA and IHMA only after meeting the anthropogenic disturbance screening criteria and the disturbance development criteria. Lek buffer modifications would also not result in any allocation changes. Some lek buffers would be increased as a result of the Proposed Land Use Plan Amendment, but, in some cases, the lek buffers may be smaller than those identified in the No-Action Alternative; however, the existing disturbance screening criteria and the disturbance development criteria would restrict development activities in both PHMA and IHMA; therefore, the changes in lek buffers sizes would have no additive effect.

The BLM's Proposed Land Use Plan Amendments in MZ II/VII are also unlikely to preclude the reasonably foreseeable actions listed in **Appendix S-2** from proceeding. Some small, localized populations may be at continued risk due to reasonably foreseeable infrastructure and energy development projects over the next 20 years, when combined with unplanned events such as wildfires, drought, and an associated decline in Greater Sage-Grouse habitat quality; however, the 2018 proposed plan amendments retained conservation measures that would be applied consistent with State management plans, and continued proactive habitat restoration efforts being completed by private, local, state, and federal partners across the MZ, to adequately conserve and maintain Greater Sage-Grouse habitat.

The Rawlins Field Office in Wyoming approved a RMP Amendment for Visual Resource Management (VRM) and the expansion of the Blowout Penstemon ACEC during this Greater Sage-Grouse planning effort. The VRM decisions are implementation level decisions which would be applied on a project-specific basis and do not represent changes in allocations, thus would not have cumulative impacts for Greater Sage-Grouse in MZ II. The Blowout Penstemon ACEC has been expanded from approximately 17,000 acres to 29,000 acres (an increase of approximately 12,000 acres) and was originally established in the 2008 Rawlins RMP to protect the endangered blowout penstemon. The expanded ACEC is closed to new oil and gas leasing and is an exclusion area for wind energy development, as well as being closed to mineral material disposals. These management decisions are the only changes in allocations and would only impact a small portion of the Rawlins Field Office and MZ II. A small portion of the ACEC overlaps with Greater Sage-Grouse PHMA and these more restrictive land uses in the ACEC would serve to further protect Greater Sage-Grouse PHMA. There would be no additional cumulative impacts on Greater Sage-Grouse in MZ II as a result of the Rawlins RMP Amendment.

#### **4.6.5 Cumulative Effects on Greater Sage-Grouse: Management Zone III**

In addition to the analysis in the 2015 Final EIS, other anticipated incremental impacts are discussed below in association with planning issues being analyzed in this FSEIS.

This area encompasses portions of California, Nevada, and Utah. Under the Proposed Land Use Plan Amendments in Nevada and Northeastern California and Utah, PHMA would decrease by 1 percent, GHMA would decrease by 2 percent, and for Nevada and Northeastern California only, Occupied Habitat Management Area (OHMA) would decrease by 2 percent, as compared to the acreages identified in the No-Action Alternative. The proposed change in habitat management area acres between the No-Action Alternative and the 2018 Proposed Plan Amendment in Nevada and Northeastern California is based on adjustments made to habitat modeling used to delineate habitat management areas and improve alignment with the State of Nevada's delineations for habitat management areas, which the State of Nevada adopted by in December 2015. In Utah, GHMA (approximately 860,000 acres) was removed in the 2018 Proposed Plan Amendment in an effort to align with the habitat management areas identified by the State of Utah. Following this habitat management area modification, planning-level allocation decisions have also been adjusted in the 2018 Proposed Plan Amendments to reflect the distribution of habitat in Nevada/Northeastern California.

In both planning areas within this MZ, land use plan allocations tied to habitat management areas did not change between the alternatives. The decrease in PHMA, GHMA, and OHMA within WAFWA MZ III between the No-Action Alternative and the 2018 Proposed Plan Amendment would therefore have negligible-to-minimal impacts on Greater Sage-Grouse and its habitat in the context of the entire MZ, as the relevant distribution of land use plan allocations associated with these habitat management areas is not significantly changing (only an overall 0-3 percent decrease, see **Appendix S-2**).

Both planning efforts' 2018 Proposed Plan Amendments in MZ III incorporate management flexibility that would allow exceptions to allocation decisions within PHMA, GHMA, and OHMA in Nevada and Northeastern California, and in both planning areas would allow for site-specific adjustments for land use authorizations and adjustments to existing adaptive management strategies. Under both sets of Proposed Land Use Plan Amendments, the BLM would remove the recommendation to withdraw SFAs from location and entry under the Mining Law of 1872, make slight adjustments to habitat objectives, and identify new exceptions to seasonal timing restrictions. The cumulative impacts of these proposed



changes to Greater Sage-Grouse populations across MZ III would be consistent with the cumulative impacts analyzed and disclosed in the 2015 Final EISs. Moreover, these proposed changes, which focus on anthropogenic disturbances, would have only a minor or limited effect on efforts to manage and conserve Greater Sage-Grouse in this MZ, where wildfire, invasive plants, and conifer encroachment are the greater threats to the Greater Sage-Grouse and its habitat.

The BLM's 2018 Proposed Plan Amendments in the MZ are also unlikely to preclude the reasonably foreseeable actions listed in **Appendix S-2** from proceeding. Some small, localized populations may be at continued risk due to the reasonably foreseeable future infrastructure and energy development projects over the next 20 years, when combined with unplanned events such as wildfires, drought, and associated decline in Greater Sage-Grouse habitat quality; however, the 2018 Proposed Plan Amendments retained conservation measures in combination with continued proactive habitat restoration efforts being completed by private, local, state, and federal partners across the MZ to adequately conserve and maintain Greater Sage-Grouse habitat.

**A summary of potential cumulative impacts by proposed management action is presented below.**

Under the 2018 Proposed Plan Amendment, habitat management area boundaries in Nevada would be adopted or revised to incorporate the best available science (Coates et al. 2016). Because the underlying habitat management area allocations put in place to conserve Greater Sage-Grouse would not change, and these updates reflect the most recent knowledge concerning Greater Sage-Grouse habitat use and distribution, there would be no appreciable additive impact from the implementation of this aspect on Greater Sage-Grouse or the resources/uses analyzed herein.

Similarly, no appreciable additive impacts are anticipated from updating the adaptive management process as described in the 2018 Proposed Plan Amendment. This update would ensure that the BLM is utilizing the best available science and decision support tools to guide management at the appropriate spatial scale, thus improving the BLM's assessment and response to ever-changing conditions that could affect Greater Sage-Grouse populations and/or habitat. Because any specific response to tripping a hard or soft trigger would be based on the causal factors responsible, presuming a specific response to unknown future conditions would be speculative at best and not reasonably foreseeable.

Under the 2018 Proposed Plan Amendment, the allocation exception process would be updated to simplify the various exemptions contained in the 2015 Final EIS. While the availability of exceptions to land use plan allocations attached to PHMA and GHMA could increase the possibility of leasing, permitting, or ground-disturbing activities within a given habitat management area, the established criteria would ensure that projects are either in unsuitable Greater Sage-Grouse habitat; do not result in direct, indirect, or cumulative impacts on Greater Sage-Grouse; or can be offset, with the exception of those needed for public health and safety; therefore, there would be no appreciable additive impact from the implementation of this action on Greater Sage-Grouse or the resources/uses analyzed herein, as compared with the No-Action Alternative.

Under the 2018 Proposed Plan Amendment, language would be added to clarify how implementation-level decisions would be guided regarding mitigation, seasonal timing restrictions, and modifying habitat objectives to better align with state conservation plans and management strategies. As these updates did not result in any new identifiable direct or indirect impacts, there would be no appreciable additive

impact from the implementation of this aspect on Greater Sage-Grouse or the resources/uses analyzed herein, as compared with the No-Action Alternative.

#### **4.6.6 Cumulative Effects on Greater Sage-Grouse: Management Zone IV**

In addition to the analysis in the 2015 Final EIS, other anticipated incremental impacts are discussed below in association with planning issues being analyzed in this FSEIS.

MZ IV encompasses portions of Idaho, Nevada, Montana, Oregon, Utah, and a small portion of Wyoming. Under the 2018 Proposed Plan Amendment PHMA would decrease by 2 percent, IHMA (Idaho) would decrease by 0 percent, GHMA would decrease by 0 percent, and OHMA (Nevada and California) would decrease by 1 percent, as compared to the acreage identified in the No-Action Alternative (**Appendix S-2**). The proposed change in habitat management area acres between the No-Action Alternative and the 2018 Proposed Plan Amendment in Nevada is based on adjustments made to habitat modeling used to delineate habitat management areas and to improve alignment with the State of Nevada's delineations for habitat management areas. In Idaho, minor proposed changes in habitat management areas are based on cleaning up habitat mapping errors, removing non-Greater Sage-Grouse habitat that is being managed as PHMA as a result of SFA designation in the 2015 Decision, and reallocating an area of PHMA to IHMA because there was no historic lek routes in the PHMA polygon. This made it impossible to apply the adaptive management framework in that polygon. Habitat management areas are not proposed to change in Wyoming, Utah, or Oregon in MZ IV.

The direct and indirect effects of proposed management changes in the Wyoming, Idaho, Utah, Nevada, and Oregon Proposed Land Use Plan Amendments are disclosed in each state's Final EIS. Change in allocation decisions is a better indicator to determine how changes across a MZ will affect Greater Sage-Grouse populations; therefore, this cumulative effects analysis relied on changes in planning allocations as the metric to measure cumulative effects in MZ IV. Idaho comprises 50 percent of the MZ while Wyoming only comprises 0.3 percent.

In all planning areas within MZ IV, land use plan allocations tied to habitat management areas would not change between the No-Action Alternative and 2018 Proposed Plan Amendment. The decrease in PHMA, GHMA, and OHMA within WAFWA MZ IV between the No-Action Alternative and the 2018 Proposed Plan Amendment would therefore have negligible to minimal impacts on Greater Sage-Grouse and its habitat in the context of the entire MZ, as the relevant distribution of land use plan allocations associated with these habitat management areas is not significantly changing (0-2 percent, see **Appendix S-2**).

Each planning efforts' 2018 Proposed Plan Amendment in MZ IV incorporate management flexibility that would allow exceptions to allocation decisions within habitat management areas and would allow for site specific adjustments for land use authorizations and adjustments to existing adaptive management strategies. Under all 2018 Proposed Plan Amendments, the BLM would remove the recommendation to withdraw SFAs from location and entry under the Mining Law of 1872, make slight adjustments to habitat objectives, and identify new exceptions to seasonal timing restrictions. The cumulative impacts of these proposed changes to Greater Sage-Grouse populations across MZ IV would be consistent with cumulative impacts described in the 2015 Final EIS. Moreover, these proposed changes, which focus on anthropogenic disturbances, would have only a minor or limited effect on efforts to manage and

conserve Greater Sage-Grouse in these MZ s, where wildfire, invasive plants, and conifer encroachment are greater threats to the grouse and its habitats.

BLM's 2018 Proposed Plan Amendments in the MZ are also unlikely to preclude the reasonably foreseeable actions listed in **Appendix S-2** from proceeding. Some small, localized populations may be at continued risk due to reasonably foreseeable future infrastructure and energy development projects over the next 20 years, when combined with unplanned events such as wildfires, drought, and associated decline in Greater Sage-Grouse habitat quality; however, the 2018 Proposed Plan Amendments retain conservation measures in combination with continued proactive habitat restoration efforts being completed by private, local, state, and federal partners across the MZ to adequately conserve and manage Greater Sage-Grouse habitats.

**A summary of potential cumulative impacts by proposed management action is presented below.**

The proposed plans vary from state to state as does each state contribution to MZ IV. Montana is not engaging in an amendment process; therefore, Montana will not be contributing to any cumulative effects. Wyoming only has about 4,000 acres of PHMA and about 20,000 acres of GHMA within MZ IV making their potential contribution to cumulative effects within the approximately 80-million-acre MZ IV negligible.

The portion of Utah that is within MZ IV is an isolated area with little or no development potential for fluid minerals and is predominantly used for livestock grazing. The RFDs for the area predicts zero wells. The changes proposed in Utah's proposed plan would have no additive effect Greater Sage-Grouse habitats within MZ IV.

The Oregon RMPA would change livestock grazing on 21,959 acres in all or portions of key Research Natural Areas from unavailable to grazing to available for grazing. No other states within MZ IV are proposing changes to grazing allocation decisions. This change would not add measurably to other actions occurring within the approximately 80-million-acre MZ IV.

The area of MZ IV that includes Utah is extremely isolated. The dominant use is grazing. Grazing management will follow rangeland land health standards, and changes to Utah's Table 2-2 that incorporate local science that will benefit Greater Sage-Grouse and ensure that grazing management is conducted properly and would not add cumulatively to Greater Sage-Grouse effects. The area continues to be a ROW avoidance area and is closed to wind energy development. The RFDs for the area predicts zero wells so the change to limited exceptions waivers and modifications are moot.

The changes proposed in Utah's proposed plan would not add measurably to other actions occurring within the approximately 80-million-acre MZ IV.

Nevada's proposed plan would revise the habitat management area boundaries to incorporate the best available science (Coates et al. 2016) but would not change the allocations associated with each habitat management area. Nevada would also update its adaptive management process to ensure that the BLM is utilizing the best available science and decision support tools to guide management at the appropriate spatial scale. These changes would not add measurably to other actions occurring in MZ IV.

In Idaho, removal of the project disturbance cap would not result in any changes to allocation decisions; rather, it would allow the BLM to cluster development in PHMA and IHMA only after meeting the anthropogenic disturbance screening criteria and the disturbance development criteria. Lek buffer modifications would also not result in any allocation changes. Some lek buffers would be increased as a result of the Proposed Land Use Plan Amendment, but, in some cases, the lek buffers may be smaller than those identified in the No-Action Alternative; however, the existing disturbance screening criteria and the disturbance development criteria would ensure that impacts from development activities in both PHMA and IHMA would not result in a net loss to Greater Sage-Grouse habitat.

Within MZ IV Oregon would retain its SFA designations, while Idaho and Nevada would remove SFA designations. Under the proposed plan in Idaho and Nevada the NSO stipulations without WEMs would change to NSO with limited Exceptions. The exception criteria could ensure that projects are either in unsuitable Greater Sage-Grouse habitat; do not result in direct, indirect, or cumulative impacts on Greater Sage-Grouse; or can be offset, with the exception of those needed for public health and safety; therefore, there would be no appreciable additive impact from the implementation of this action on Greater Sage-Grouse or the resources/uses analyzed herein, as compared with the No-Action Alternative.

Under the proposed plan, language would be added to clarify how implementation-level decisions would be guided regarding mitigation, seasonal timing restrictions, and modifying habitat objectives to better align with state conservation plans and management strategies. As these updates did not result in any new identifiable direct or indirect impacts, there would be no appreciable additive impact from the implementation of this aspect on Greater Sage-Grouse or the resources/uses analyzed herein, as compared with the No-Action Alternative.

#### **4.6.7 Cumulative Effects on Greater Sage-Grouse: Management Zone V**

In addition to the analysis in the 2015 Final EIS, other anticipated incremental impacts are discussed below in association with planning issues analyzed in this FSEIS. All changes in the extent of habitat management areas and areas recommended for withdrawal within the MZ occur under the Nevada/Northeastern California amendment. The Oregon amendment did not propose any changes in the extent of habitat management areas (PHMA and GHMA). Oregon removed the recommendation for a withdrawal in the SFA under a plan maintenance action in May, prior to the start of this amendment process. That action resulted in no difference between the No-Action Alternative and the 2018 Proposed Plan Amendments in terms of withdrawals.

Under the 2018 Proposed Plan Amendments in Nevada and Northeastern California, PHMA would decrease by 1 percent, GHMA would decrease by 2 percent, and for Nevada and Northeastern California only, OHMA would decrease by 2 percent, as compared to the acreages identified in the No-Action Alternative. The proposed change in habitat management area acres between the No-Action Alternative and the 2018 Proposed Plan Amendment in Nevada and Northeastern California is based on adjustments made to habitat modeling used to delineate habitat management areas and improve alignment with the State of Nevada's delineations for habitat management areas, which the State of Nevada adopted by in December 2015. Following this habitat management area modification, planning level allocation decisions have also been adjusted to reflect the distribution of habitat in Nevada/Northeastern California. Future adjustments to habitat management areas in

Nevada/Northeastern California would be based on best available science and to align with the respective states' delineations for Greater Sage-Grouse habitat.

In Oregon, the only proposed decision under the Management Alignment Alternative (2018 Proposed Plan Amendment) would retain livestock grazing within key Research Natural Areas in order to provide ungrazed controls and better assess the impacts of grazing on Greater Sage-Grouse habitat elements, such as insects and forbs important to Greater Sage-Grouse, as discussed earlier in this chapter. This modification would result in returning livestock grazing to 21,959 acres within the 2018 Proposed Plan Amendment. In the context of the entire MZ, this change would have negligible to no effects on Greater Sage-Grouse populations. Well-managed grazing practices are compatible with sagebrush ecosystems and Greater Sage-Grouse persistence; however, Greater Sage-Grouse population response to grazing varies with local vegetation productivity, underscoring the need for long-term replicated grazing studies across the sagebrush ecosystem and within different ecological sites across the range of Greater Sage-Grouse to better understand the different effects of grazing on Greater Sage-Grouse habitat selection, vital rates, and population trends (DOI 2016).

**A summary of potential cumulative impacts by proposed management action is presented below.**

Under the Nevada/Northeastern California amendment, the Management Alignment Alternative (2018 Proposed Plan Amendment) would increase PHMA by less than 1 percent, decrease GHMA by 1 percent, and decrease OHMA by 2 percent. This change in habitat management area acres between the No-Action Alternative and 2018 Proposed Plan Amendment would be the result of improved habitat modeling used to delineate habitat management areas (best available science) and to align with the State of Nevada's delineations for habitat management areas (adopted by the State of Nevada in December 2015). Following this habitat management area modification, planning level allocation decisions have also been adjusted to reflect the distribution of habitat in Nevada/Northeastern California.

The Management Alignment Alternative (2018 Proposed Plan Amendment) for Nevada/Northeastern California would also remove the recommendation for a withdrawal in the SFAs; allow exceptions to allocation decisions within PHMA, GHMA, OHMA; modify the existing adaptive management strategy; make slight adjustments to habitat objectives; and identify new exceptions to seasonal timing restrictions. Removing the recommendation to withdraw SFAs from location and entry under the Mining Law of 1872 would result in a 3 percent decrease of acres recommended for withdrawal (see **Appendix S-2**). The largest percent allocation change between the alternatives within the MZ would be consistent with those impacts described in the 2015 Final EIS for the then Proposed Plan Amendments because the Management Alignment Alternatives (2018 Proposed Plan Amendments) changes from the No-Action Alternative are minor and deal largely with anthropogenic disturbances. The greatest threats to populations in this MZ would remain wildfire, invasive plants, and conifer encroachment.

The decreases in GHMA and OHMA within WAFWA MZ V between the No-Action Alternative and Management Alignment Alternative (2018 Proposed Plan Amendment) would therefore have negligible to no effect on Greater Sage-Grouse populations and their habitat in the context of the entire MZ, as the relevant distribution of land use plan allocations associated with these habitat management areas would result in an estimated 2.5 to 3 percent decrease, all from Nevada and Northeastern California (see **Appendix S-2**).

The BLM's 2018 Proposed Plan Amendments in MZ V are unlikely to preclude the reasonably foreseeable actions listed in **Appendix S-2** from proceeding. Overall, the 2018 Proposed Plan Amendments retain conservation measures in combination with continued proactive habitat restoration efforts being completed by private, local, state, and federal partners across the MZ; however, smaller populations, particularly those at the edge of the species range, would remain at highest risk of extirpation (Aldridge et al. 2008; Garton et al. 2011.), which the reasonably foreseeable actions may exacerbate as unplanned events such as wildfires, drought, and other natural disturbances lead to declines in Greater Sage-Grouse habitat quality.

Under the 2018 Proposed Plan Amendment, habitat management area boundaries in Nevada/California would be adopted or revised to incorporate the best available science (Coates et al. 2016). Because the underlying habitat management area allocations put in place to conserve Greater Sage-Grouse would not change, and these updates reflect the most recent knowledge concerning Greater Sage-Grouse habitat use and distribution, there would be no appreciable additive impact from the implementation of this aspect on Greater Sage-Grouse or the resources/uses analyzed herein.

Similarly, no appreciable additive impacts are anticipated from updating the adaptive management process as described in the Management Alignment Alternative. This update would ensure that the BLM is utilizing the best available science and decision support tools to guide management at the appropriate spatial scale, thus improving the BLM's assessment and response to ever-changing conditions that could affect Greater Sage-Grouse populations and/or habitat. Because any specific response to tripping a hard or soft trigger would be based on the causal factors responsible, presuming a specific response to unknown future conditions would be speculative at best and not reasonably foreseeable.

Under the 2018 Proposed Plan Amendment, the allocation exception process would be updated to simplify the various exemptions contained in the 2015 Final EIS. While the availability of exceptions to land use plan allocations attached to PHMA and GHMA could increase the possibility of leasing, permitting, or ground-disturbing activities within a given habitat management area, the established criteria would ensure that projects are either in unsuitable Greater Sage-Grouse habitat; do not result in direct, indirect, or cumulative impacts on Greater Sage-Grouse; or can be offset, with the exception of those needed for public health and safety; therefore, there would be no appreciable additive impact from the implementation of this action on Greater Sage-Grouse or the resources/uses analyzed herein, as compared with the No-Action Alternative.

Under the 2018 Proposed Plan Amendment, language would be added to clarify how implementation-level decisions would be guided regarding mitigation, seasonal timing restrictions, and modifying habitat objectives to better align with state conservation plans and management strategies. As these updates did not result in any new identifiable direct or indirect impacts, there would be no appreciable additive impact from the implementation of this aspect on Greater Sage-Grouse or the resources/uses analyzed herein, as compared with the No-Action Alternative.

#### **4.7 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES**

Section 102(2)(C) of NEPA requires a discussion of any irreversible or irretrievable commitments of resources from an alternative, should it be implemented. An irreversible commitment of a resource is one that cannot be reversed, such as the extinction of a species or loss of a cultural resource site without proper documentation. An irretrievable commitment of a resource is one in which the resource

or its use is lost for a period of time, such as the extraction of oil and gas. Should oil and gas deposits underlying Greater Sage-Grouse habitat be extracted, that oil and gas resource would be lost.

#### **4.8 UNAVOIDABLE ADVERSE IMPACTS**

Section 102(C) of NEPA requires disclosure of any adverse environmental impacts that could not be avoided should the proposal be implemented. Unavoidable adverse impacts are those that remain following the implementation of mitigation measures or impacts for which there are no mitigation measures. Some unavoidable adverse impacts happen from implementing the Proposed RMPA/Final EIS; others are a result of public use of BLM-administered lands in the planning area.

This section summarizes major unavoidable impacts discussions of the impacts of each management action (in the discussion of alternatives) and provides greater information on specific unavoidable impacts.

Surface-disturbing activities would result in unavoidable adverse impacts. Although these impacts would be mitigated to the extent possible, unavoidable damage would be inevitable under both the No-Action Alternative and the 2018 Proposed Plan Amendment.

Impacts from permanent conversion of areas to other uses, such as transportation and mineral and energy development or off highway vehicle (OHV) use, would be greater under the 2018 Proposed Plan Amendment, but overall it would be minimal for both alternatives. Both the No-Action Alternative and the 2018 Proposed Plan Amendment would place restrictions on many types of development, which would most likely result in fewer visual intrusions and fewer instances of unavoidable wildlife habitat loss.

Wildlife, livestock, wild horses and burros, and other herbivores consume vegetation and affect soils through hoof action and possible compaction. When these impacts are kept at appropriate levels, natural processes, such as plant growth and recovery, freeze-thaw periods, and microbial activity in the soil surface, result in recovery from these impacts and maintain site stability and health. Vegetation treatments promoting recovery of Greater Sage-Grouse habitats would destroy the target species, be it annual grasses, noxious weeds, or encroaching juniper. Some level of competition for forage between wildlife, livestock, and wild horses would occur. Displacement, harassment, and injury to these species could also occur. Both the No-Action Alternative and the 2018 Proposed Plan Amendment would place restrictions on development and surface-disturbing activities, which would minimize the likelihood of displacement, harassment, and injury.

Development of mineral resources and general use of the decision area would introduce additional ignition sources into the planning area, which would increase the probability of wildland fire and the need for its suppression. These activities, combined with continued fire suppression, would also affect the overall composition and structure of vegetation communities; this could increase the potential for high-intensity wildland fires. Restrictions on development under both alternatives would decrease the potential for ignitions in the decision. However, the No Action Alternative has greater restrictions on development.

Numerous land use restrictions imposed throughout the decision area to protect Greater Sage-Grouse habitat and other important values, by their nature, affect the ability of operators, individuals, and groups who use the public lands to do so without limitations. Although attempts would be made to minimize

these impacts, unavoidable adverse impacts to public land users could occur under the No-Action Alternative or the 2018 Proposed Plan Amendment.

#### **4.9 RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES AND LONG-TERM PRODUCTIVITY**

Section 102(C) of NEPA requires a discussion of the relationship between local, short-term uses of the human environment and the maintenance and enhancement of long-term productivity of resources. As described in the introduction to this chapter, short-term is defined as anticipated to occur within the first 5 years of implementation of the activity and long-term as lasting beyond 5 years to the end of or beyond the life of this FSEIS.

Surface-disturbing activities, including transportation and utility corridor construction, and mineral resource development would result in the greatest potential for impacts on long-term productivity. Management prescriptions and RDFs are intended to minimize the effect of short-term commitments and to reverse change over the long term. These prescriptions and the associated reduction of impacts would be greater under the No-Action Alternative for such resources as vegetation and wildlife habitat; however, some impacts on long-term productivity might occur, despite the prescriptions intended to reduce impacts on Greater Sage-Grouse and its habitat.

ROWs and short-term use of an area to foster energy and mineral development would result in long-term loss of soil productivity and vegetation diversity. Impacts would persist as long as surface disturbance and vegetation loss continue. In general, the loss of soil productivity would be directly at the point of disturbance; even so, long-term vegetation diversity and habitat value could be reduced due to fragmentation and the increased potential for invasive species to spread from the developments or disturbances. Both the No-Action Alternative and the 2018 Proposed Plan Amendment would provide for long-term productivity through restrictive allocations that limit development in many areas and through the application of other restrictions on development, such as disturbance caps, RDFs, and other management prescriptions.

ROWs and the short-term use of Greater Sage-Grouse habitat for energy and mineral development could impair the long-term productivity of Greater Sage-Grouse and its habitat and that of other species. This would occur by displacing species from primary habitats and removing components of these habitats that might not be restored for 20 years or longer. These short-term uses could also affect the long-term sustainability of some special status species. The potential for these impacts, however, would be minimal under both the No-Action Alternative and the 2018 Proposed Plan Amendment. The short-term resource uses associated with mineral development (oil and gas seismic exploration, natural gas test well drilling, and the noise associated with these activities) would have adverse impacts on the long-term productivity of Greater Sage-Grouse and its habitat. This would be the case if these resource uses were to infringe on Greater Sage-Grouse seasonal habitats, such as nesting, brood-rearing, and winter habitats. These activities, though short-term individually, could have collective long-term impacts on Greater Sage-Grouse and its habitat if they were to increase in the long term.



# Chapter 5. Consultation and Coordination

## 5.1 PUBLIC INVOLVEMENT DURING THE 2020 NEPA PROCESS

### 5.1.1 Public Comments on the DSEIS

The BLM accepted comments on the DSEIS for 90 days after the NOA publishes in the *Federal Register*.

## 5.2 AMERICAN INDIAN TRIBAL CONSULTATION

Various federal laws require the BLM to consult with American Indian tribes during the NEPA process. This section documents the specific consultation and coordination undertaken throughout the process of developing the 2018 Final EIS. No new consultation is being initiated because no new decisions are being considered as the FSEIS solely updates NEPA analysis to clarify the approach taken in the 2018 Final EIS.

The Idaho BLM sent out tribal consultation letters in December 2017, inviting the tribes listed in **Table 5-1** to consult with the BLM on the upcoming Greater Sage-Grouse plan amendment process.

**Table 5-1**  
**Tribal Consultation Letters**

<b>Tribes Invited to Consult</b>	<b>Tribes Consulted</b>
Duck Valley Shoshone-Paiute Tribe	✓
Confederated Salish and Kootenai Tribes	—
Coeur d'Alene Tribe	—
Shoshone-Bannock Tribes	✓
Kootenai Tribe	—
Nez Perce Tribe	—

The Idaho BLM met with the Shoshone-Paiute Tribe on several occasions in late 2017 and early 2018 to keep them updated on the status of the plan amendment. On March 29, 2018, the BLM met with the Shoshone Bannock Tribe's resource staff to invite them to consult and to update them on the status of the plan amendment.

## 5.3 LIST OF PREPARERS

An interdisciplinary team of staff from the BLM, in collaboration with Environmental Management and Planning Solutions, Inc. prepared the SEIS.

<b>Name</b>	<b>Role/Responsibility</b>
Ryan Hathaway	Team Lead ( <i>former</i> )
Vicki Herren	Wildlife Biologist
Jonathan Beck	Team Lead, Greater Sage-Grouse State Implementation Lead

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# Glossary

**Adaptive management.** A type of natural resource management in which decisions are made as part of an ongoing science-based process. Adaptive management involves testing, monitoring, and evaluating applied strategies, and incorporating new knowledge into management approaches that are based on scientific findings and the needs of society. Results are used to modify management policy, strategies, and practices.

**Amendment.** The process for considering or making changes in the terms, conditions, and decisions of approved Resource Management Plans or management framework plans. Usually only one or two issues are considered that involve only a portion of the planning area.

**Avoidance/avoidance area.** These terms usually address mitigation of some activity (i.e., resource use). Paraphrasing the Council on Environmental Quality Regulations (40 CFR 1508.20), avoidance means to circumvent, or bypass, an impact altogether by not taking a certain action, or parts of an action. Therefore, the term “avoidance” does not necessarily prohibit a proposed activity, but it may require the relocation of an action, or the total redesign of an action to eliminate any potential impacts resulting from it. Also see “*right-of-way avoidance area*” definition.

**Best Management Practices (BMPs).** A suite of techniques that guide or may be applied to management actions to aid in achieving desired outcomes. BMPs are often developed in conjunction with land use plans, but they are not considered a planning decision unless the plans specify that they are mandatory.

**Biologically Significant Unit (BSU).** A geographical/spatial area within Greater Sage-Grouse habitat that contains relevant and important habitats that is used as the basis for comparative calculations to support evaluation of changes to habitat.

**Compensatory mitigation.** Compensating for the residual impact by replacing or providing substitute resources or environments (40 CFR 1508.20).

**Controlled Surface Used (CSU).** CSU areas are open to fluid mineral leasing, but the stipulation allows the BLM to require special operational constraints, or the activity can be shifted more than 200 meters (656 feet) to protect the specified resource or value.

**Cooperating agency.** Assists the lead federal agency in developing an environmental assessment or environmental impact statement. These can be any agency with jurisdiction by law or special expertise for proposals covered by NEPA (40 CFR 1501.6). Any tribe or Federal, State, or local government jurisdiction with such qualifications may become a cooperating agency by agreement with the lead agency.

**Council on Environmental Quality (CEQ).** An advisory council to the President of the US established by the National Environmental Policy Act of 1969. It reviews federal programs to analyze and interpret environmental trends and information.

**Cumulative effects.** The direct and indirect effects of a proposed project alternative's incremental impacts when they are added to other past, present, and reasonably foreseeable actions, regardless of who carries out the action.

**Decision area.** Public lands and mineral estate managed by the US Department of Interior, Bureau of Land Management that are within the planning area and are encompassed by all designated habitat.

**Direct impacts.** Direct impacts are caused by an action or implementation of an alternative and occur at the same time and place.

**Ecological site potential.** The natural plant communities that would become established at late or climax stages of successional development in the absence of disturbance based on the climate, soils, slope, and elevation that that plant community occurs on.

**Environmental impact statement (EIS).** A detailed statement prepared by the responsible official in which a major federal action that significantly affects the quality of the human environment is described, alternatives to the proposed action are provided, and effects are analyzed.

**Fluid minerals.** Oil, gas, coal bed natural gas, and geothermal resources.

**General Habitat Management Area (GHMA).** Areas of seasonal or year-round Greater Sage-Grouse habitat outside of priority habitat.

**Geographic Information System (GIS).** A system of computer hardware, software, data, people, and applications that capture, store, edit, analyze, and display a potentially wide array of geospatial information.

**Habitat.** An environment that meets a specific set of physical, biological, temporal, or spatial characteristics that satisfy the requirements of a plant or animal species or group of species for part or all of their life cycle.

**Impact.** The effect, influence, alteration, or imprint caused by an action.

**Important Habitat Management Area (IHMA).** High value habitat and populations that provide a management buffer for the PHMAs and connect patches of PHMAs.

**Indirect impacts.** Indirect impacts result from implementing an action or alternative but usually occur later in time or are removed in distance and are reasonably certain to occur.

**Large Scale Anthropogenic Disturbance.** Large Scale Anthropogenic disturbance are development projects that include highways, high voltage transmission lines, commercial wind projects, energy development (e.g., oil and gas development, geothermal wells), airports, mines, cell phone towers, landfills, residential, and commercial subdivisions, etc.

**Leasable minerals.** Those minerals or materials designated as leasable under the Mineral Leasing Act of 1920. These include energy-related mineral resources such as oil, natural gas, coal and geothermal, and some non-energy minerals, such as phosphate, sodium, potassium, and sulfur. Geothermal resources are also leasable under the Geothermal Steam Act of 1970.

**Lease stipulation.** A modification of the terms and conditions on a standard lease form at the time of the lease sale.

**Lek.** An arena where male Greater Sage-Grouse display for the purpose of gaining breeding territories and attracting females. These arenas are usually open areas with short vegetation within sagebrush habitats, usually on broad ridges, benches, or valley floors where visibility and hearing acuity are excellent.

**Long-term effect.** The effect could occur for an extended period after implementation of the alternative. The effect could last several years or more.

**Management decision.** A decision made by the BLM to manage public lands. Management decisions include both land use plan decisions and implementation decisions.

**Minimization mitigation.** Minimizing impacts by limiting the degree or magnitude of the action and its implementation (40 CFR 1508.20 (b)).

**Mitigation.** Includes specific means, measures or practices that could reduce, avoid, or eliminate adverse impacts. Mitigation can include avoiding the impact altogether by not taking a certain action or parts of an action, minimizing the impact by limiting the degree of magnitude of the action and its implementation, rectifying the impact by repairing, rehabilitation, or restoring the affected environment, reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action, and compensating for the impact by replacing or providing substitute resources or environments.

**Modification.** A change to the provisions of a lease stipulation, either temporarily or for the term of the lease. Depending on the specific modification, the stipulation may or may not apply to all sites within the leasehold to which the restrictive criteria are applied.

**No surface occupancy (NSO).** A major constraint where use or occupancy of the land surface for fluid mineral exploration or development and all activities associated with fluid mineral leasing (e.g., truck-mounted drilling, construction of wells and/or pads) are prohibited to protect identified resource values. Areas identified as NSO are open to fluid mineral leasing, but surface occupancy or surface-disturbing activities associated with fluid mineral leasing cannot be conducted on the surface of the land. Access to fluid mineral deposits would require horizontal drilling from outside the boundaries of the NSO area.

**Planning area.** The geographical area for which resource management plans are developed and maintained regardless of jurisdiction.

**Planning criteria.** The standards, rules, and other factors developed by managers and interdisciplinary teams for their use in forming judgments about decision making, analysis, and data collection during planning. Planning criteria streamlines and simplifies the resource management planning actions.

**Planning issues.** Concerns, conflicts, and problems with the existing management of public lands. Frequently, issues are based on how land uses affect resources. Some issues are concerned with how land uses can affect other land uses, or how the protection of resources affects land uses.

**Policy.** This is a statement of guiding principles, or procedures, designed and intended to influence planning decisions, operating actions, or other affairs of the BLM. Policies are established interpretations of legislation, executive orders, regulations, or other presidential, secretarial, or management directives.

**Priority Habitat Management Areas (PHMA).** Areas that have been identified as having the highest conservation value to maintaining sustainable Greater Sage-Grouse populations; they include breeding, late brood-rearing, and winter concentration areas.

**Required Design Features (RDFs).** Means, measures, or practices intended to reduce or avoid adverse environmental impacts. A suite of features that would establish the minimum specifications for certain activities (i.e., water developments, mineral development, and fire and fuels management) and mitigate adverse impacts. These design features would be required to provide a greater level of regulatory certainty than through implementation of Best Management Practices. In general, the design features are accepted practices that are known to be effective when implemented properly at the project level.

**Resource management plan (RMP).** A land use plan as prescribed by the Federal Land Policy and Management Act that establishes, for a given area of land, land-use allocations, coordination guidelines for multiple-use, objectives, and actions to be achieved.

**Short-term effect.** The effect occurs only during or immediately after implementation of the alternative.

**Stipulation (general).** A term or condition in an agreement or contract.

**Stipulation (oil and gas).** A provision that modifies standard oil and gas lease terms and conditions in order to protect other resource values or land uses and is attached to and made a part of the lease. Typical lease stipulations include No Surface Occupancy (NSO), Timing Limitations (TL), and Controlled Surface Use (CSU). Lease stipulations are developed through the land use planning process.

**Timing Limitation (TL).** Areas identified for timing limitations, a moderate constraint, are closed to fluid mineral exploration and development, surface-disturbing activities, and intensive human activity during identified timeframes. This stipulation does not apply to operation and basic maintenance activities, including associated vehicle travel, unless otherwise specified. Construction, drilling, and other operations considered to be intensive are not allowed. Intensive maintenance, such as workover operations, is not permitted. TLs can overlap spatially with no surface occupancy and controlled surface use, as well as with areas that have no other restrictions.

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# Appendix B

## Buffers





# Appendix B. Buffers

## APPLYING LEK BUFFER-DISTANCES WHEN APPROVING ACTIONS

### Buffer Distances and Evaluation of Impact on Leks

Evaluate impact on leks from actions requiring NEPA analysis. In addition to any other relevant information determined to be appropriate (e.g., state wildlife agency plans), the BLM will apply the lek buffer-distances described below, unless justifiable departures are determined to be appropriate.

**PHMA**—The BLM will apply the lek buffer-distances specified as the lower end of the interpreted range in the report (*Distance Estimates for Greater Sage-Grouse—A Review* ([Open File Report 2014-1239](#)), unless justifiable departures are determined to be appropriate (see below). The lower end of the interpreted range of the lek buffer-distances is as follows:

- Linear features (roads) within 3.1 miles of leks
- Infrastructure related to energy development within 3.1 miles of leks
- Tall structures (e.g., communication or transmission towers and transmission lines) within 2 miles of leks
- Low structures (e.g., fences and rangeland structures) within 1.2 miles of leks
- Surface disturbance (continuing human activities that alter or remove the natural vegetation) within 3.1 miles of leks
- Noise and related disruptive activities
  - Repeated/sustained disturbance including those that do not result in habitat loss at least 2 miles from leks
  - Temporary noise including those that do not result in habitat loss (e.g., motorized recreational events) at least 0.25 miles from leks

**IHMA**—The BLM will apply the lek buffer-distances as follows, unless justifiable departures are determined to be appropriate (see below):

- Linear features (e.g., roads) within 0.8 miles of leks
- Infrastructure related to energy development (e.g., oil, gas, wind, and solar) within 2 miles of leks
- Tall structures (e.g., electrical, communication, and meteorological)
  - Transmission lines/towers within 1.2 miles of leks, with a 1.2- to 2-mile buffer, subject to the exemption criteria; applicable to this variable and select variables in GHMA below
  - Distribution lines/poles within 0.6 miles of leks
  - Communication and meteorological towers within 2 miles of leks
- Low structures (e.g., fences and rangeland structures) within 0.6 miles of leks
- Surface disturbance (continuing human activities that alter or remove the natural vegetation) within 2 miles of leks

- Noise and related disruptive activities
  - Repeated/sustained noise disturbances, including those that do not result in habitat loss at least 2 miles of leks
  - Temporary noise disturbances, including those that do not result in habitat loss (e.g., motorized recreation events) at least 0.25 miles from leks

**GHMA**—The BLM will apply the lek buffer-distances as follows, subject to the following exception criteria:

- Linear features (e.g., roads) within 0.25 miles of leks
- Infrastructure related to energy development (e.g., oil, gas, wind, and solar) within 0.6 miles of leks; 2-mile feasibility/practicality conditions
- Tall structures (e.g., electrical, communication, and meteorological) within 0.6 miles of leks
- Low structures (e.g., fences and rangeland structures) within 0.12 miles of leks
- Surface disturbance (continuing human activities that alter or remove the natural vegetation) within 2 miles of leks

Noise and related disruptive activities

- Repeated/sustained disturbances, including those that do not result in habitat loss at least 2 miles from leks
- Temporary disturbances, including those that do not result in habitat loss (e.g., motorized recreation events) at least 0.25 miles from leks

**Buffer Exception Criteria for IHMA and GHMA**—It is impracticable, technically or economically, to locate the project outside of the buffer area and impacts are avoided through project siting and design to the extent reasonable or impacts are minor or nonexistent and impacts are avoided through project siting and design to the extent reasonable; the buffers do not apply to vegetation treatments specifically designed to improve or protect Greater Sage-Grouse habitat

**Justifiable Departures**—Justifiable departures to decrease or increase from these distances, based on local data, best available science, landscape features, and other existing protections (e.g., land use allocations and state regulations) may be appropriate for determining activity impacts. The USGS report recognized “that because of variation in populations, habitats, development patterns, social context, and other factors, for a particular disturbance type, there is no single distance that is an appropriate buffer for all populations and habitats across the sage-grouse range.” The USGS report also states that “various protection measures have been developed and implemented...[which have] the ability (alone or in concert with others) to protect important habitats, sustain populations, and support multiple-use demands for public lands.” All variations in lek buffer-distances will require appropriate analysis and disclosure as part of activity authorization. In determining lek locations, the BLM will use the most recent active or occupied lek data available from the state wildlife agency.

**For Actions in GHMA**

The BLM will apply the lek buffer-distances identified above as required conservation measures to fully address the impact on leks identified in the NEPA analysis. Impacts should first be avoided by locating the action outside the applicable lek buffer-distances identified above.

The BLM may approve actions in GHMA that are within the applicable lek buffer-distance identified above only under the following:

- Impacts should first be avoided by locating the action outside the applicable lek buffer-distances identified above.
- If it is not possible to relocate the project outside the applicable lek buffer-distances identified above, the BLM may approve the project only if
  - Based on best available science, landscape features, and other existing protections, (e.g., land use allocations and state regulations), the BLM determines that a lek buffer-distance other than the applicable distance identified above offers the same or a greater level of protection to Greater Sage-Grouse and its habitat, including conservation of seasonal habitat outside of the analyzed buffer area **or**
  - The BLM determines that impacts on Greater Sage-Grouse and its habitat are minimized such that the project will cause minor or no new disturbance, such as collocation with existing authorizations, **and**
  - Any residual impacts in the lek buffer-distances are addressed to achieve a no net loss standard

**For Actions in PHMA and IHMA**

- The BLM will apply the lek buffer-distances identified above as required conservation measures to fully address the impacts on leks, as identified in the NEPA analysis. Impacts should be avoided by locating the action outside the applicable lek buffer-distances identified above.
- The BLM may approve actions in PHMA and IMHA that are within the applicable lek buffer-distance identified above, only if, with input from the state fish and wildlife agency, it determines, based on best available science, landscape features, and other existing protections, that a buffer-distance other than that identified above offers the same or greater level of protection to Greater Sage-Grouse and its habitat, including conservation of seasonal habitat outside of the analyzed buffer area.
- Range improvements that do not affect Greater Sage-Grouse, or range improvements that provide a conservation benefit to Greater Sage-Grouse, such as fences for protecting important seasonal habitats, meet the lek buffer requirement.

The BLM will explain its justification for determining if the approved buffer-distances meet these conditions in its project decision.

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# Appendix S-I

Review of the NTT and COT Report's Relevance to  
the Planning Process; Incorporation of the NTT,  
COT, and USGS Summary of Science into the Idaho  
Planning Process



# **Appendix S-I. Review of the NTT and COT Report's Relevance to the Planning Process; Incorporation of the NTT, COT, and USGS Summary of Science into the Idaho Planning Process**

This appendix outlines how the NTT and COT and reports factored into the planning process for the FEIS, and how NTT, COT, and USGS science was incorporated into the planning process.

## **S-I.1 BLM NATIONAL TECHNICAL TEAM REPORT (2011)**

In 2010, the US Fish and Wildlife Service (USFWS) determined that Greater Sage-Grouse warranted listing under the Endangered Species Act, but was precluded from listing due to other priorities. In response to this determination, the BLM initiated a land use planning process in 2011. To help inform that process the BLM assembled a “National Technical Team” (NTT), comprising state and federal resource specialists and scientists to review the scientific literature available at that time. On December 21, 2011 the NTT finalized a document entitled *A Report on National Greater Sage-Grouse Conservation Measures*, also known as the National Technical Team Report (NTT Report). The report was developed to provide “the latest science and best biological judgement” from the available literature (NTT Report, Introduction, page 5). Though the NTT Report is not itself science, the NTT used the best science available at that time to inform the conservation measures it identified for BLM decision-makers to consider through the land use planning and NEPA process.

On December 27, 2011, the BLM issued policy in Instruction Memorandum 2012-044 requiring BLM offices to “consider all applicable conservation measures when revising or amending its RMPs in Greater Sage Grouse habitat” (IM-2012-44, Policy/Action). The IM clarified a distinction between “all applicable conservation measures” and those included in the NTT Report by noting in the following sentence that “the conservation measures developed by the NTT...must be considered and analyzed, as appropriate, through the land use planning process” (ibid). Each BLM planning effort complied with this policy by including an alternative based entirely on the conservation measures identified by the NTT. This was Alternative B in the 2013 Draft EIS and 2015 Final EIS, and by extension in the 2018 Draft and Final EISs. Through this alternative and corresponding analysis, the BLM complied with its policy for considering the conservation measures in the NTT Report.

It is critical to clarify that neither the NTT nor the BLM’s policy intended that the conservation measures in the NTT Report were to be automatically applied across the range without intervening consideration through detailed land use planning and NEPA analysis. In the same paragraph that directs the BLM to “consider all applicable conservation measures” from the NTT Report, IM-2012-044 also notes that “while these conservation measures are range-wide in scale, it is expected that at the regional and sub-regional planning scales there may be some adjustments of these conservation measures in order to address local ecological site variability.” Moreover, the NTT understood that the measures in its report would be evaluated alongside competing land use planning considerations and with follow-up

environmental analysis relating to the conservation efficacy of its measures. As the NTT Report described, the conservation measures are not themselves management decisions but rather have been prepared “to assist [the BLM] in making management decisions.” (NTT Report, Introduction, page 5.) In other words, “the conservation measures described in [the] report *are not an end point* but, rather, a *starting point* to be used in the BLM’s planning processes” (ibid, page 5) (emphasis added).

The principle of local adaptation of scientific results and recommended conservation measures derived from them is present in other documents with sage-grouse conservation recommendations. In 2014, three years after the NTT Report, the Department of the Interior requested the U.S. Geological Survey (USGS) prepare a report that compiled and summarized published scientific studies regarding buffer distances around sage-grouse habitats. In the report titled *Conservation Buffer Distance Estimates for Greater Sage-Grouse – A Review* (Open File Report 2014-1239), USGS scientists note that “responses of individual birds and populations, coupled with variability in land-use patterns and habitat conditions, add variation in research results. This variability presents a challenge for land managers and planners seeking to use research results to guide management and plan for sage-grouse conservation measures. Variability between sage-grouse populations and their responses to different types of infrastructure can be substantial across the species’ range. Logical and scientifically justifiable departures from the ‘typical response,’ based on local data and other factors, may be warranted when implementing buffer protections or density limits in parts of the species’ range” (USGS Open File Report 2014-1239, page 2). A simple statement from the report indicates this variability, where the USGS scientists noted that “there is no single distance that is an appropriate buffer for all populations and habitats across the sage-grouse range” (ibid, pg. 2).

Further, the BLM’s policy requiring consideration of the conservation measures in the NTT Report allowed for individual planning efforts to make adjustments to the report’s conservation measures. IM-2012-044 states that “the NTT-developed conservation measures were derived from goals and objectives developed by the NTT” and that “these goals and objectives are a *guiding philosophy* that should *inform* the goals and objectives developed for individual land use plans. However, *it is anticipated that individual plans may develop goals and objectives that differ and are specific to individual planning areas*” (emphasis added). The anticipation for variability across the range is even more explicit when the IM notes that “while [the NTT Report’s] conservation measures are range-wide in scale, *it is expected that at the regional and sub-regional planning scales there may be some adjustments of these conservation measures in order to address local ecological site variability*” (emphasis added). With specific consideration of this variability, each BLM planning and NEPA effort developed and analyzed a range of alternative approaches for sage-grouse habitat management in each sub-region/state. Through this process, the BLM considered local and regional differences, analyzing the effect of each alternative approach locally and cumulatively.

As the NTT developed its conservation measures, it did not take into consideration other legal and regulatory requirements associated with land use planning and NEPA. For example, the NTT’s range-wide conservation measures did not take into account State or local greater sage-grouse conservation efforts.

Further, the NTT Report’s conservation measure that declares that priority sage-grouse habitat areas should be found unsuitable for all surface mining of coal entirely overlooks the specific process to determine unsuitability prescribed in 43 Code of Federal Regulations (CFR) 3461. Elsewhere the NTT



Report states that “a 4-mile [no surface occupancy (NSO) stipulation] likely would not be practical given most leases are not large enough to accommodate a buffer of this size, and lek spacing within priority habitats is such that lek-based buffers may overlap and preclude all development” (NTT Report, page 21) and therefore presents a conservation measure to close priority sage-grouse habitat areas to fluid mineral leasing. This is not consistent with BLM planning guidance directing planning teams that “when applying leasing restrictions, the least restrictive constraint to meet the resource protection objective should be used” (BLM-H-1601 Appendix C page 24); whether or not a lease is large enough to accommodate a large NSO should not be a consideration if NSO provides the necessary protection. In its foundational legislation for the BLM, Congress specifically declared that it neither enlarged nor diminished the authority of the states in managing fish and wildlife. In recognizing this role, as well as local knowledge and expertise, Congress directed the BLM to develop its land use plans to “be consistent with State and local plans to the maximum extent [the BLM] finds consistent with Federal law and the purposes of [FLPMA]” (Federal Land Policy and Management Act {FLPMA}, Section 202 (c)(9)).

In recognition of instances where the NTT Report's conservation measures were not consistent with law, regulation, or policy the BLM's policy direction in IM-2012-044 directs that “when considering the [NTT Report's] conservation measures...BLM offices should ensure that implementation of any of the measures is consistent with applicable statute and regulation. Where inconsistencies arise, BLM offices should consider the conservation measure(s) to the fullest extent consistent with such statute and regulation.”

Each BLM planning effort fully considered the broad, range-wide recommendations from the NTT Report through the required NEPA process. This consideration was accomplished, as directed by Congress, using a “systematic interdisciplinary approach to achieve integrated consideration of physical, biological, economic, and other sciences” (FLPMA Section 202(c)(2)). Through careful consideration of the NTT's conservation measures, as well as local expertise, monitoring, partnerships, and other resource and land uses, the BLM developed sage-grouse management goals, objectives, and management actions that accounted for the variability of habitat and resources across the range. Through the combination of both the 2015 and 2019 planning processes the BLM aligned with the statutory requirement that the BLM resolve, “to the extent practical, inconsistencies between Federal and non-Federal Government plans” (FLPMA Sec. 202(c)(9)). Through these efforts, the BLM has met its statutory and regulatory responsibilities related to the conservation measures contained in the NTT Report.

What the NTT Report and its Conservation Measures Are:

- The NTT Report included science-based management considerations for greater sage-grouse to promote sustainable sage-grouse populations.
- The conservation measures were to be considered and analyzed through the BLM's land use planning process.
- The conservation measures are range-wide in scale, not accounting for local variability.
- The conservation measures were a starting point to be used in the BLM's planning process.
- The NTT Report was developed by a team of resource specialists and scientists familiar with greater sage-grouse literature and BLM programs.

#### What the NTT Report and its Conservation Measures Are Not:

- Unlike FLPMA's requirement for Land Use Plans to coordinate with state and local plans and policies, the NTT Report was not developed with input from or consideration of plans, policies, or programs of State, Tribal, or local government agencies.
- The conservation measures were not developed using a systematic interdisciplinary approach, as required by FLPMA for land use plans.
- The NTT Report presented conservation measures that would provide food and habitat for one species of wildlife, but did not consider other FLPMA requirements for BLM to manage for other species and resources while also recognizing the need for sources of minerals, food, timber and fiber from public lands.
- The NTT Report is not a land use plan, amendment, or revision.
- The conservation measures were based on best available science at the time and do not provide for future updates in scientific knowledge or technological advancements.

#### **S-I.2 US FISH AND WILDLIFE CONSERVATION OBJECTIVES TEAM REPORT (2013)**

In 2012 the director of the USFWS convened a Conservation Objectives Team (COT) of state and USFWS representatives. The team developed a peer-reviewed report (COT Report) that delineated objectives based on the “best scientific and commercial data available at the time of its release” (COT Report, page ii). The COT Report, released in March 2013, identifies conservation objectives, measures, and options for each of the Greater Sage-Grouse threats assessed. The COT Report also identified Priority Areas for Conservation (PACs) which were identified as “the most important areas needed for maintaining sage-grouse representation, redundancy, and resilience across the landscape” (ibid, page 13). Unique compared to the NTT Report, the COT Report identified threats to each PAC, recognizing that threats vary across the range, and therefore corresponding management should vary to address those threats. The preface to the report is clear that the COT report “is guidance only” and that the “identification of conservation objectives and measures does not create a legal obligation beyond existing legal requirements” (ibid, page ii). Further, the preface notes that the objectives “are subject to modification as dictated by new findings, changes in species’ status, and the completion of conservation actions” (ibid, page ii).

The COT Report clearly identifies the necessity to adapt sage-grouse conservation goals, objectives, and measures due to variability across the range. The COT noted that “due to the variability in ecological conditions and the nature of the threats across the range of the sage-grouse, *developing detailed, prescriptive species or habitat actions is not possible at the range-wide scale*” (emphasis added) (COT Report, Section 5- Conservation Objectives, page 31). The COT Report summarizes the relationship between its range-wide conservation goals, objectives, and measures and the state-specific planning efforts, noting that “specific strategies or actions necessary to achieve the following conservation objectives must be developed and implemented at the state or local level, with the involvement of all stakeholders” (ibid).

The BLM received the COT Report when developing its 2013 Draft EIS and fully considered it prior to Draft EIS publication, providing for public review of the BLM’s evaluation. Upon receipt of the Report the BLM evaluated the range of alternatives and determined that the threats addressed by the COT Report were all addressed in the range of alternatives; this was presented to the public in Appendix C in the 2013 Draft EIS. The BLM also evaluated the impacts to Greater Sage-Grouse from the alternatives

and determined that the COT Report objectives were all addressed within the range of alternatives; this was presented to the public in the 2013 Draft EIS Chapter 2 Table 2.4 (Comparison of Alleviated Threats to GRS in the Idaho Sub-Region).

Following public comments and development of the 2015 Proposed Plan, Section 2.5 of the Final EIS updated the crosswalk between the USFWS threats and the BLM program areas, showing that all the threats for which the BLM has discretion were addressed. Section 2.11.7 notes that all conservation measures and objectives identified in the COT report were considered within the 2015 Final EIS range of alternatives. Finally, a table was added to the 2015 Final EIS Executive Summary that showed the management actions from the 2015 Proposed Plan that addressed the COT Report threats.

On October 2, 2015, the USFWS determined that “listing the sage-grouse as a threatened or endangered species is not warranted...” (Federal Register Vol. 80, No. 191, 59936). One of the rationale for this determination was that “the new Federal land-management paradigm is established in 98 amended Federal Plans that reduce and minimize threats to the species in the most important habitat for the species” (ibid). Through this language, it is clear that the 2015 planning efforts incorporated the recommendations from the COT Report to a degree that met the report’s goal of “long-term conservation of sage-grouse and healthy sagebrush shrub and native perennial grass and forb communities by maintaining viable, connected, and well-distributed populations and habitats across their range, through threat amelioration, conservation of key habitats, and restoration activities” (COT Report, page 13).

What the COT Report and its Objectives, Measures and Options Are:

- The COT Report is a compilation of reasonable objectives, based upon the best scientific and commercial data available at the time of its release, for the conservation and survival of greater sage-grouse.
- The COT Report is guidance to federal land management agencies, state sage-grouse teams, and others developing efforts to achieve conservation for greater sage-grouse.
- The COT Report was clear that its objectives were subject to modification based on new findings, changes in species’ status, and the completion of conservation actions.
- The COT Report was developed by a team of state and USFWS representatives selected by their respective state or agency.

What the COT Report and its Objectives, Measures and Options Are Not:

- The COT Report is not a recovery plan, conservation strategy, or conservation agreement.
- The COT Report did not include input from BLM biologists or BLM field staff familiar with local habitat conditions and threats.
- The COT Report was not developed with input from the BLM, its managers, planners, wildlife program leads, or field biologists and as such includes objectives, measures and options that do not consider the BLM’s statutory, regulatory, or policy requirements.

### **S-I.3 EXCERPTS FROM THE ID DEIS MAY 2018**

- Chapter 1: Purpose of and Need for Action. Section 1.4. Page 4. Planning Criteria: This RMPA/EIS will incorporate, as appropriate, information in a USGS report that identified and annotated Greater Sage-Grouse science published since January 2015 (Carter et al. 2018) and a report that synthesized and outlined the potential management implications of this new science (Hanser et al. 2018).
- Chapter 2
  - a. p. 2-24: No Action “125. Build ponds with steep shorelines to reduce shallow water (>60 cm) and aquatic vegetation around the perimeter of impoundments to deter colonizing by mosquitos (Knight et al. 2003, cited in NTT report page 61)”.
  - b. p. 2-25 Management Alignment alternative: same text as on p. 2-24
- Chapter 3. Affected Environment. Section 3.1 Introduction (p. 1) – includes this paragraph “Based on available information, including the USGS reports described below, the BLM has concluded that the existing condition is not substantially different from that of 2015; therefore, the data and information presented in the 2015 Final EIS are incorporated into this RMPA/EIS.” On p. 2: “USGS Reports” “The review discussed the science related to six major topics identified by USGS and BLM...” Six paragraphs follow – one for each of the 6 listed topics:
  1. Multiscale habitat suitability and mapping tools: The BLM has completed a plan maintenance action whereby the agency has clarified its ability to modify the habitat objective indicator values based upon local, site-specific information. p.3
  2. Discrete human activities: The science developed since 2015 corroborates prior knowledge about the impact of discrete human activities on Greater Sage-Grouse. New science suggests that strategies to limit surface disturbance may be successful at limiting range-wide population declines; however, it is not expected to reverse the declines, particularly in areas of active oil and gas operations (Hanser et al. 2018, p. 2). This information may have relevance when considering the impact of changes to management actions designed to limit discrete disturbances. p.3
  3. Diffuse activities: This information was considered when determining the scoping issues addressed in Chapter 1, Section 1.5. p.3
  4. Fire and invasive species: These concepts inform restoration and management strategies and help prioritize application of Greater Sage-Grouse management resources (Hanser et al. 2018, p. 2). p.3
  5. Restoration effectiveness: Restoration activities occur mainly at the implementation level, and the BLM maintains the flexibility to incorporate new tools in the agency's project planning for restoration actions. p.4
  6. Population estimation and genetics: New information continues to reaffirm BLM's understanding that Greater Sage-Grouse is a species that selects for large, intact landscapes and habitat patches. p.4
- Chapter 4: Section 4.6 Cumulative Effects Analysis: While the analysis for the 2015 Final EIS is quite recent, the BLM has reviewed conditions in Idaho to verify that they have not changed significantly. The BLM's assessment that science related to Greater Sage-Grouse and current conditions have not changed significantly is based, in part, on the USGS science review (see Chapter 3). It is also based on the BLM's review of additional past, present, and reasonably foreseeable actions in 2018. Since the nature and context of the cumulative effects scenario has

not appreciably changed since 2015, and the 2015 analysis covered the entire range of the Greater Sage-Grouse, the cumulative effects analysis in the 2015 Final EIS applies to this planning effort and provides a foundation for the BLM to identify any additional cumulative impacts. p.18. And further down the page: The 2015 Final EIS analyzed the cumulative impacts of the No-Action Alternative and the Governor's Alternative. The Management Alignment Alternative's effects are entirely within the range of effects of these two alternatives. The 2015 Final EIS is quite recent and the science and conditions in Idaho have not changed significantly, based on the USGS science review and current conditions described in Chapter 3. Because of this, the cumulative effects analysis in the 2015 Final EIS is still applicable. The range-wide and plan-specific cumulative effects analyses from the 2015 Final EIS is hereby incorporated by reference into this RMPA/EIS (2015 Final EIS Chapter 5).

**S-I.4 EXCERPTS FROM CHAPTER 2 ID FEIS JUNE 2015 FOR NTT AND COT:**

<b>Page</b>	<b>NTT</b>	<b>COT</b>
2-8	Developed one No Action Alternative (Alternative A) and three preliminary action alternatives. The first action alternative (Alternative B) is based on A Report on National Greater Sage-Grouse Conservation Measures (NTT 2011), and the two additional action alternatives (Alternative C and F) are based on proposed alternatives submitted by various conservation groups.	-
2-8	Customized the objectives and actions from the NTT-based alternative (Alternative B) to develop a third action alternative (Alternative D) that strives for balance among competing interests	-
2-9	-	2.5 BLM/Forest Service Resource Programs for Addressing GRSG Threats The action alternatives are directed towards responding to USFWS-identified issues and threats to GRSG and its habitat. The USFWS threats do not necessarily align with BLM and Forest Service resource program areas, and are often integrated into several different agency resource program areas. Table 2-1, USFWS Threats to GRSG and Their Habitat, Applicable BLM and Forest Service Proposed Plan Resource Program Areas Addressing these Threats, provides a cross-walk between each of the USFWS listing decision and COT identified threats and the BLM and the Forest Service resource program areas and shows how those threats were addressed in the BLM and the Forest Service land use plan.
2-11 to 2-13	-	Table 2-1 USFWS Threats to GRSG and Their Habitat, Applicable BLM and Forest Service Proposed Plan Resource Program Areas Addressing these Threats. (middle column heading – top of 3 pages) COT Report-Identified Threats to GRSG and Its Habitat (2013).
2-43	-	FM-15: If prescribed fire is used in GRSG habitat, the NEPA analysis for the Burn Plan will address: <ul style="list-style-type: none"> <li>• why alternative techniques were not selected as a viable options;</li> <li>• how GRSG goals and objectives would be met by its use;</li> <li>• how the COT Report objectives would be addressed and met;</li> <li>• a risk assessment to address how potential threats to GRSG habitat would be minimized.</li> </ul>

Appendix S-I. Review of the NTT and COT Report's Relevance to the Planning Process; Incorporation of the NTT, COT, and USGS Summary of Science into the Idaho Planning Process

Page	NTT	COT
2-80	2.8.3 Alternative B BLM and Forest Service management actions, in concert with other state and federal agencies and private landowners, play a critical role in the future trends of GRSG populations. The BLM National Policy Team, as part of the National Greater Sage-Grouse Planning Strategy, established the NTT in August 2011. The NTT's mission was to develop and describe conservation measures to be considered while new or revised range-wide and long term regulatory mechanisms were developed through LUPAs to conserve, enhance, and restore the portions of GRSG habitat on BLM- and Forest Service-administered lands. The BLM and Forest Service used GRSG conservation measures in A Report on National Greater Sage-Grouse Conservation Measures (Sage-Grouse National Technical Team 2011, also referred as to the NTT Report) to form management direction under Alternative B.	-
2-81	2.8.5 Alternative D This is the Idaho and Southwestern Montana Sub-region alternative. It describes conservation measures to conserve, enhance, and restore GRSG habitat on BLM- and Forest Service-administered lands, while balancing resources and resource use among competing human interests, land uses, and the conservation of natural and cultural resource values, and sustaining and enhancing ecological integrity across the landscape, including plant, wildlife, and fish habitat. This alternative incorporates the NTT strategy and includes local adjustments to A Report on National Greater Sage-Grouse Conservation Measures (NTT 2011) and habitat boundaries to provide a balanced level of protection, restoration, enhancement, and use of resources and services to meet ongoing programs and land uses.	-
2-103	Table 2-10. Alternative E: E-GOAL-1: Conserve the GRSG and its habitat to avoid a listing under the ESA (see NTT 2011).	-

**S-I.5 SUMMARY TABLE OF TABLE 2-12, CHAPTER 2, 2015 FEIS. COMPARISON OF ALLEVIATED THREATS TO GRSG IN THE IDAHO AND SOUTHWEST MONTANA SUB-REGION:**

p. 2-205. Summary for <i>Fire, Fuels Treatments including Prescribed Fire</i> :	All action alternatives will decrease habitat loss from prescribed fire and wildfire by limiting prescribed fire and prioritizing wildfire suppression efforts in the sub-region, which respond to the Conservation Objectives Team report objectives. Alternatives B, D, E, F and the Proposed Plan would also try to lessen the future probability of large fires in GRSG by putting in fire breaks which would further benefit GRSG. Alternatives B, C, D, F and the Proposed Plan all move to lessen habitat loss from treatments within winter habitat to varying degrees, which is consistent with the objective to retain sagebrush. Alternative C is passive toward fire and fuels management emphasizing natural restorative processes following a reduction in anthropogenic disturbance. In Alternative C, reduction in the threat of wildfire would occur over the long term from overall improvement of habitat. The Proposed Plan would allow prescribed fire if net benefit for GRSG, and would use an adaptive management approach.
p. 2-206. Summary for <i>Invasive Species</i> :	All action alternatives respond to the COT report objectives by implementing actions to maintain and restore healthy sagebrush communities. Alternative D provides the lowest surface disturbance threshold (no unmitigated loss of habitat), which would reduce opportunities for incursion of nonnative species. Alternatives B, C, F and the Proposed Plan propose 3 percent thresholds in PHMA. Alternatives B, D, E, F and the Proposed Plan prioritize restoration of areas with invasive weed infestations and emphasize restoration, which would further reduce habitat degradation. Alternative C prioritizes restoration of invasive infestations but limits restoration to natural processes following a reduction in anthropogenic uses (livestock removal, fencing and roads infrastructure removal).
p. 2-206 Summary for <i>Pinyon-Juniper Encroachment</i> :	All action alternatives except Alternative C would respond to the pinyon-juniper objective in the Conservation Objectives Team report. The objective is to remove pinyon-juniper from areas of sagebrush that are most likely to support GRSG at a rate that is at least equal to rate of pinyon-juniper incursion. Alternatives D and E directly address juniper removal and prioritization and the Proposed Plan includes enhanced monitoring and mitigation. Alternatives B, C, and F talk more generally about restoration and thus may not provide the greatest assurance for improvement of GRSG habitat.
p. 2-207 Summary for <i>Livestock Grazing, Structure Range Improvements and Wild Horses</i> :	All action alternatives would manage grazing to better meet the ecological conditions that maintain or restore healthy sagebrush shrub and native perennial grass and forb communities and conserve the essential habitat components for GRSG (e.g., shrub cover, nesting cover), which responds to the Conservation Objectives Team report objective. All action alternatives emphasize GRSG in decision making for livestock grazing; however, Alternative C would remove grazing from PHMA and Alternative F would reduce grazing. Grazing management would be similar between Alternatives B, D, E, and the Proposed Plan with slightly different guidance or priorities. For wild horses there would be a focus on GRSG habitat and priority for gathers in GRSG habitat for Alternatives B, D, F and the Proposed Plan. These alternatives include evaluation of HMAs and Wild Horse Territories to consider adjustments in AML to meet GRSG habitat standards. Alternatives C and E do not directly address WHB.



Appendix S-I. Review of the NTT and COT Report's Relevance to the Planning Process; Incorporation of the NTT, COT, and USGS Summary of Science into the Idaho Planning Process

p. 2-208. Summary for <i>Infrastructure - Right-of-way</i> :	All alternatives respond to the conservation objective for infrastructure identified in the Conservation Objectives Team report, which is to avoid development within priority areas for conservation. Alternatives B, C, D, and F all close certain areas to new ROWs. The difference between these alternatives is the amount of GRS habitat that would be closed and the type of ROWs that would be prohibited or restricted. Alternative C closes all occupied GRS habitat to new ROWs and is the most restrictive. Alternatives B and F include the same restrictions as Alternative C; however, these restrictions would be applied to a smaller geographic area. Alternative D and the Proposed Plan would provide fewer restrictions, as all GRS habitat would be ROW avoidance with exclusions for certain ROWs in PHMA. Also under Alternative E, some GRS habitat would be managed as ROW avoidance. This may eliminate habitat loss, degradation, and fragmentation in important seasonal habitats. However, because there are few if any exclusions under this alternative, there is less assurance of protection for GRS on federal land. All alternatives seek to avoid conflict with GRS habitat, to utilize existing corridors, and to co-locate within existing development footprints.
p. 2-209. Summary for <i>Infrastructure – Roads</i> :	All alternatives respond to the Conservation Objectives Team report objective to varying degrees. All alternatives would limit OHV travel to existing or designated routes in certain areas, which would eliminate unauthorized route creation. The difference between alternatives is the amount of GRS habitat that would be changed from an open to a limited category. Alternative A would have the fewest acres limited to existing roads and trails, followed by Alternatives B and F. Under Alternatives C, D, E, and the Proposed Plan all GRS habitat would be limited to existing roads and trails.
p. 2-209. Summary for <i>Infrastructure – Fences</i> :	Some of the alternatives respond to the intent of the Conservation Objectives Team report objectives, which is to minimize impacts from fences on GRS. Alternatives B, D, and F would consider more of the conservation options identified in the Conservation Objectives Team report. For example, marking fences would decrease bird/fence collisions, and removal of unneeded fences would decrease collisions and opportunities for avian predation. Alternative E in Idaho would only include marking fences.
p. 2-210. Summary for <i>Energy Development (Non-renewable)</i> :	To varying degrees all action alternatives respond to the Conservation Objectives Team report objective for energy, which is that energy development should be designed to ensure that it will not impinge on stable or increasing GRS population trends. Alternatives B, C, and F close areas to new leasing. The difference between these alternatives is the amount of GRS habitat that would be closed. Alternative C closes all occupied GRS habitat to new leasing and is the most restrictive. Alternatives B and F include the same restrictions as Alternative C; however, these restrictions would be applied to a smaller geographic area. Management under Alternative D and the Proposed Plan would be less restrictive than Alternatives B, C, and F. Stipulations such as NSO, CSU, and TL would restrict the amount, location, and timing of development. These restrictions would reduce habitat loss, degradation, and fragmentation in seasonal habitats. Alternative E would provide the fewest restrictions on fluid mineral leasing and development. Under Alternatives B, C, F and the Proposed Plan RDFs would be attached to new and existing leases. Applying required design features to existing leases may eliminate habitat loss, degradation, and fragmentation. However, the effectiveness of these measures would be limited in areas where there is already extensive development. Under Alternative D, design features would not be required, but would be discretionary. There would be no restrictions on existing leases under Alternative E.
p. 2-211. Summary for <i>Renewable Energy Sources – Wind Energy</i> :	To varying degrees all alternatives respond to the conservation objective for energy, which is to ensure that development will not impinge upon stable or increasing population trends. Alternatives B, C, D, F and the Proposed Plan provide protection from wind development to GSRG and their habitat since all four stipulate that wind development is excluded from PHMA. Population declines could occur under Alternatives A and E, as wind development would be allowed. Stipulations on development would reduce habitat loss, fragmentation, degradation, and disturbance.

Appendix S-I. Review of the NTT and COT Report's Relevance to the Planning Process; Incorporation of the NTT, COT, and USGS Summary of Science into the Idaho Planning Process

p. 2-210. Summary for <i>Mining – Solid Minerals, Non-energy Leasables, Locatables, and Mineral Materials</i> :	To varying degrees all action alternative respond to the COT report objectives, which is to maintain GRSG population and no net loss of GRSG habitat in in areas affected by mining. Alternatives B, C and F would be closed or withdrawn to other minerals. Therefore, future impacts on GRSG would not occur, which address the objectives in the COT report. Under Alternative D and the Proposed Plan, surface use restrictions would be placed on development to protect breeding, and some nesting and early brood-rearing habitat, which would provide opportunities for nest success and chick survival. Additional stipulations (CSU and TL) would restrict the type, amount, location, and timing of development. These restrictions would reduce habitat loss, degradation and fragmentation. Under Alternative E in Idaho, impacts would continue, as management would be the same as Alternative A. Some impacts would be reduced in Idaho through the application of stipulations. As such, there is less assurance of protection for nesting GRSG. Alternatives B, C, F and the Proposed Plan would require RDFs along with other conservation measures to reduce habitat loss, fragmentation, degradation, and disturbance to the extent possible on valid rights. Under Alternative D, design features would not be required, but would be discretionary. There would be no restrictions on existing leases under Alternative E.
p. 2-211. Summary for <i>Renewable Energy Sources – Wind Energy</i> :	To varying degrees all alternatives respond to the conservation objective for energy, which is to ensure that development will not impinge upon stable or increasing population trends. Alternatives B, C, D, F and the Proposed Plan provide protection from wind development to GSRG and their habitat since all four stipulate that wind development is excluded from PHMA. Population declines could occur under Alternatives A and E, as wind development would be allowed. Stipulations on development would reduce habitat loss, fragmentation, degradation, and disturbance.
p. 2-211. Summary for <i>Recreation/Travel Management</i> :	To varying degrees, all action alternatives respond to the COT report objective, which is that areas subject to recreation activities should maintain healthy native sagebrush communities based on local ecological conditions and with consideration of drought conditions, and managed direct and indirect human disturbance (including noise) to avoid interruption of normal GRSG behavior. PHMA would be limited to existing roads under Alternatives B and F. Under Alternatives C, D, E, and the Proposed Plan all GRSG habitat would be limited to existing roads. Once travel management planning is completed, this would be changed to a limited to designated routes category. These alternatives would prevent proliferation of new routes, and would include direction for seasonal closures, route realignment, and provisions for valid existing rights. Recreation management under all action alternatives would aim to reduce impacts on GRSG and habitat.
p. 2-212. Summary for <i>Agriculture/Urbanization</i> :	To varying degrees, all action alternatives respond to the COT report objective to limit urban and exurban development in GRSG habitats and maintain intact native sagebrush communities by managing land tenure, consolidating and otherwise minimizing the impacts of infrastructure supporting adjacent development, and burial/removal of infrastructure. Alternatives B, C, D, F and the Proposed Plan favor land acquisition as a tool for conserving important habitat on private lands. All alternatives prescribe ROW exclusion or avoidance (see Infrastructure) and colocation of infrastructure to minimize footprint. Alternatives B, D, and F contain specific actions directed at burial or removal of existing infrastructure such as power lines. Alternatives B, C, D, F and the Proposed Plan call for retention of all GRSG habitats in public ownership. Impacts would continue to occur under Alternative E, which is the same as Alternative A.

- End of tables of excerpts from the ID GRSG 2015 and 2018 NEPA Docs. Nov 25, 2019 -

## **S-I.6 COT, NTT AND USGS 2018 GENERAL INFORMATION**

Outline:

- 1) COT and NTT Reports
  - a) Introduction
  - b) Description of each document
  - c) How the reports were considered in 2015 and 2019 LUP decision
  - d) How/which parts were implemented
- 2) USGS 2018 Annotated Bibliography: Research on Sage-Grouse since 2015
  - a) Description
  - b) How it was considered in 2018

### **I.a. Introduction to COT and NTT reports:**

Upon review of the best available science and commercial information, the FWS concluded in 2010 that the Greater Sage-Grouse warranted protection under the ESA. Two factors leading to the decision to list the species as “warranted but precluded” were threats to habitat and the inadequacy of existing regulatory mechanisms.

I.b.i. Sage-Grouse National Technical Team (NTT). A Report on National Greater Sage-Grouse Conservation Measures. December 2011. [https://eplanning.blm.gov/epl-front-office/projects/lup/9153/39961/41912/WySG\\_Tech-Team-Report-Conservation-Measure\\_2011.pdf](https://eplanning.blm.gov/epl-front-office/projects/lup/9153/39961/41912/WySG_Tech-Team-Report-Conservation-Measure_2011.pdf)

In 2011, in response to the FWS 2010 warranted but precluded finding, the BLM initiated a land use planning process and assembled a National Technical Team (NTT) made up of state and federal sage-grouse experts to review all of the best available science on sage-grouse and habitat impacts and make recommendations for conservation measures that should apply inside Priority Habitats. The report describes the scientific basis for the conservation measures proposed within each BLM program area.

Among the key recommendations of the National Technical Team’s final report (NTT 2011) were recommendations to: (1) close Priority Habitats to future mining claims and leasing for oil, gas, and coal; (2) apply four-mile NSO buffers around sage-grouse leks for existing oil and gas leases; and (3) cap cumulative habitat disturbance at 3% of the landscape and one industrial site per square-mile.

I.b.ii. Conservation Objectives Team (COT). Greater Sage-Grouse Final Report. February 2013. <https://www.fws.gov/greatersagegrouse/documents/COT-Report-with-Dear-Interested-Reader-Letter.pdf>

In 2012, at the request of the Sage-Grouse Task Force, a group of state and federal representatives (Conservation Objectives Team (COT)) produced a report that identified the most significant areas for Greater Sage-Grouse conservation (Priority Areas for Conservation (PACs)), the principal threats within those areas, and the degree to which such threats need to be reduced or ameliorated to conserve the Greater Sage-Grouse so that it would not be in danger of extinction or likely to become so in the foreseeable future.

I.c. How COT and NTT were considered in 2015 and 2019 LUP decisions:

2015: As directed in the BLM Washington Office IM 2012-044, the conservation measures developed by the National Technical Team were to be considered and analyzed, as appropriate, through the land use planning and NEPA processes by all BLM state and field offices that contain occupied Greater Sage-Grouse habitat. IM 2012-144 <https://www.blm.gov/policy/im-2012-044> also directed the BLM to refine the Preliminary Priority Habitat and Preliminary General Habitat data through the land use planning process. The 2013 Draft Sage-Grouse RMP amendments and revisions/Draft EISs contained one alternative based on the conservation measures developed by the National Technical Team and evaluated through the 2012-2015 planning process.

2019: The BLM considered the entire range of alternatives from the 2015 Final EIS to identify issues meriting reconsideration, given the BLM's goal of enhancing alignment with state plans. In this manner, the BLM will continue to appropriately manage Greater Sage-Grouse and its habitat through this planning effort in tandem with the 2015 ROD/ARMPA.

I.d. How/which parts of NTT were implemented:

The 2015 Proposed LUPA incorporated management based on the National Technical Team recommendations.

2 USGS 2018 Annotated Bibliography: Research on Sage-Grouse since 2015

2.a. Description:

In June 2017, Secretarial Order 3353 Greater Sage-Grouse Conservation and Cooperation with Western States established a team to review the federal land management agencies' Sage-Grouse Plan Amendments or Revisions completed on or before September 2015.

[https://www.doi.gov/sites/doi.gov/files/uploads/so\\_3353.pdf](https://www.doi.gov/sites/doi.gov/files/uploads/so_3353.pdf)

In 2018, additional constraints on land uses or development without a documented need would not meet the purpose of SO 3353. The BLM did not discover new information that would indicate the agency should increase the level of conservation, management, and protection to achieve its land use plan objective. As part of the consideration of whether to amend the 2015 Greater Sage-Grouse RMPs, the BLM requested the USGS to develop an annotated bibliography of Greater Sage-Grouse science published since January 2015 (Carter et al. 2018; see Section 3.1). In addition, SO 3353 directs the BLM to promote habitat conservation, while contributing to economic growth and energy independence. As analyzed in the 2015 Final EIS, all of the previously analyzed alternatives, including one proposing constraints stricter than the current management plan, were predicted to result in a loss of development opportunities on public lands.

2.b. How USGS Bibliography was considered in 2018

As part of the consideration of whether to amend some, all, or none of the 2015 Greater Sage-Grouse land use plans, the BLM requested the USGS to develop an annotated bibliography of Greater Sage-Grouse science published since January 2015 (Carter et al. 2018) and a report that synthesizes and outlines the potential management implications of this new science (Hanser et al. 2018).

### **S-1.7 HOW THE 2019 ARMPA CHANGES AFFECT ALIGNMENT WITH USFWS CONSERVATION OBJECTIVES TEAM OBJECTIVES**

This appendix includes a description of the 2013 USFWS Conservation Objectives Team (COT) Report, including how the 2013 Draft EIS and 2015 Final EIS included sections that documented how the report's objectives were all addressed in the considered range of alternatives. The October 2, 2015 USFWS determination that listing sage-grouse as threatened or endangered was partially based on the 2015 ARMPAs incorporating management that reduced or minimized threats. This section summarizes how the 2019 ARMPA affects alignment of the BLM Idaho's plan with the COT Report objectives and the COT Report's goal of "long-term conservation of sage-grouse and healthy sagebrush shrub and native perennial grass and forb communities by maintaining viable, connected, and well-distributed populations and habitats across their range, through threat amelioration, conservation of key habitats, and restoration activities" (COT Report, page 13).

#### **S-1.7.1 Issue: Sagebrush Focal Area Designations/Withdrawal Recommendation**

Removal of the SFAs does not affect meeting the COT objectives. SFAs are not identified as required to meet any specific COT objective, and are not even mentioned in the COT Report. SFAs are a subset of PHMA and are managed as PHMA with some additional management, however that additional management overlaps significantly with management of PHMA. The sagebrush focal area (SFA) designation and associated management direction was removed to eliminate redundancy. In the 2015 ARMPA, the SFA designation overlaid the PHMA designation and was determined to be unnecessary as a protective measure since the PHMA designation serves to protect Greater Sage-Grouse habitat and populations from the threats experienced in Idaho. A proposed SFA mineral withdrawal was canceled with a Notice of Cancellation published in the Federal Register on October 11, 2017. Both SFA and PHMA are managed as "no surface occupancy" for fluid Mineral leasing, the only difference is that PHMA allows for a limited exception. The exceptions must meet a stringent series of criteria to be approved as described in MD MR 3. Finally, both SFA and PHMA are the top two priorities for vegetative treatments, permit renewals, monitoring, and compliance checks. The removal of SFA designations will have no measurable effect on the conservation of Greater Sage-Grouse in Idaho because the Management Direction proposed for PHMA would remain in place and continue to protect Greater Sage-Grouse habitat. SFA removal will add flexibility for responsible development with stringent requirements including mitigation to achieve a no net loss goal and objective to Greater Sage-Grouse habitat in PHMA.

The removal of SFA designations would have no measurable effect on the conservation of Greater Sage-Grouse in Idaho because the Management Direction proposed for PHMA would remain in place and continue to protect Greater Sage-Grouse habitat. SFA removal would add flexibility for responsible development with stringent requirements including mitigation to achieve a no net loss to Greater Sage-Grouse habitat in PHMA.

#### **S-1.7.2 Issue: Administering Disturbance and Density Caps**

Removing the project level disturbance cap does not affect meeting the COT objectives. The COT Report does not specifically call for implementation of a disturbance cap. Rather, the COT objectives discuss the importance of minimizing disturbance to sage-grouse habitat.

Removal of the 3 percent project level disturbance cap would allow BLM to intentionally cluster developments within areas already degraded by discrete anthropogenic activities in Greater Sage-

Grouse habitat as long as the overall disturbance within the BSU remains below 3 percent. The 3 percent project scale disturbance cap has the potential to spread development into undeveloped areas of Greater Sage-Grouse habitat just to avoid reaching the 3 percent project scale disturbance cap in already fragmented areas. All 8 BSUs in Idaho are well under the 3 percent BSU scale Disturbance Cap (most are less than 1 percent) and are expected to remain low because of the no-net-loss mitigation standard and the other restrictions to development in PHMA and IHMA.

Most development is centered along population centers in Idaho and most Greater Sage-Grouse habitat is located away from habitat. This reduces the current potential for development related habitat loss or disturbance but as Idaho's population continues to grow, development in the future may be pushed more and more into Greater Sage-Grouse habitat.

### **S-1.7.3 Issue: Modifying Mitigation Strategy**

The COT Report recommends the pursuit of a “no net loss” goal for sage-grouse habitat, noting that “when avoidance is not possible, meaningful minimization and mitigation of the impacts should be implemented” (page 31). It also recommends that “efforts should be made to restore the components lost within the PAC (e.g., redundancy or representation) in other areas such that there is no net loss of sage-grouse or their habitats” (page 37). The 2019 ARMPA implements this recommendation by adopting a goal and objective to “undertake planning decisions, actions and authorizations ‘to minimize or eliminate threats affecting the status of [GRSG] or to improve the condition of [GRSG] habitat’” (MD SSS 30; MD MR 3; MD LR 14; Section 2.12) (2019 ROD Section 1.6).

The COT Report does not specify how to achieve its objective of “no net loss” of sage-grouse habitat. The approach taken by the BLM in the 2019 ARMPA, which includes the goal and objective described above (see MD MT 3; Appendix E-Anthropogenic Disturbance and Adaptive Management and F-Mitigation Framework ), while relying on avoidance and minimization, implementation of state mitigation requirements and standards, and voluntary mitigation undertaken by project proponents, as well as additional BLM and State investments to protect and restore sage-grouse habitat, is fully consistent with the COT report's recommendation to pursue a “no net loss” objective for sage-grouse habitat.

### **S-1.7.4 Issue: Modifying Habitat Objectives**

The COT Report includes general descriptions of Greater Sage-Grouse seasonal habitat needs. It cites several references where various habitat characteristics (vegetation type, density, height, etc.) are detailed. However, the COT chose not to prescribe or recommend a range-wide standard of metrics for habitat characteristics in the COT Report. Instead, the COT objectives are more general, recommending that habitats be managed “in a manner consistent with local ecological conditions that maintains or restores healthy sagebrush shrub and native perennial grass and forb communities and conserves the essential habitat components for sagegrouse (e.g. shrub cover, nesting cover)” (COT Report, page 45 – emphasis added).

Consistent with this approach, the 2019 ARMPA makes changes to the specific habitat objective indicators and values (percent cover, height, composition, etc.) based on peer-reviewed literature specific to Greater Sage-Grouse use of habitats throughout Idaho. These changes update the metrics from the 2015 ARMPA based on finalization and publication of the Greater Sage-Grouse habitat characteristics for Idaho. These changes are precisely aligned with the COT objective to manage habitats

“consistent with local ecological conditions” (COT Report, page 45), as well as modifying the specificity of habitat objectives “as dictated by new findings” (COT Report, page ii).

The 2019 decision clarified the intent of the Desired Conditions Table 2-2. It also modified the grass height objective from “7 inches” to “adequate nesting cover” based on best science. This change reflects that adequate nesting cover may change to be more or less than the standard 7 inches over time as science advances. These changes are in alignment with the COT objectives for habitat.

#### **S-1.7.5 Issue: Waivers, Exceptions, and Modifications for NSO Stipulations**

The COT objective for energy development is that it “should be designed to ensure that it will not impinge upon stable or increasing sage-grouse population trends” (COT Report, page 43). It goes on to note that “addressing energy development and any subsequent successful restoration activities in sagebrush ecosystems *will require consideration of local ecological conditions*, which cannot be prescribed on a range-wide level” (ibid, emphasis added).

The 2019 ARMPA does not change the 2015 fluid mineral leasing no surface occupancy (NSO) stipulation for PHMA. As such, the strategy to avoid any potential detrimental impacts of energy development did not change. However, as described in the 2018 Final EIS, PHMA in Idaho allows NSO with limited exception in PHMA. The change from NSO with no exception to NSO with limited exception should not result in increased habitat loss or degradation because the proposed exception criteria and screening and development criteria (MD SSS 29 and 30) require offsetting impacts to achieve a no net loss to Greater Sage-Grouse or its habitat. The limited exception would allow BLM to develop fluid mineral leases in PHMA under limited situations consistent with its multiple use mandate.

#### **S-1.7.6 Issue: Modifying Habitat Management Area Boundaries**

The COT Report clearly anticipates updating boundaries with the objective that “PAC boundaries should be adjusted based on new information regarding habitat suitability and refined mapping techniques, new genetic connectivity information, and new or updated information on seasonal range delineation” (COT Report, page 37). Language was already in the 2015 ARMPA addressing such adjustments. The 2019 ARMPA added additional detail to clarify boundary adjustments through the process of collecting and incorporating new information MD SSS 6 considers the fact that habitat conditions and our understanding of Greater Sage-Grouse can change over time as new science emerges and the climate changes; therefore, it may be necessary to modify habitat boundaries and designations within Idaho. To effectively respond to changes, the BLM and cooperating agencies have developed a two-team approach, detailed in the management alignment alternative, that would become Appendix K. The process and sideboards identified in the two-team approach should reduce the risk of habitat adjustments being made that disregard the science and the needs of Greater Sage-Grouse.

#### **S-1.7.7 Issue: Application of Lek Buffers and Required Design Features**

Buffers are not mentioned in any COT objectives or conservation measures. They are, however, mentioned in the COT Report in the energy development section. That section states, that “if avoidance is not possible within PACs...development should only occur in non-habitat areas...with an adequate buffer that is sufficient to preclude impacts to sage-grouse habitat from noise, and other human activities” (COT Report, page 43).

Avoidance is the primary tool in both the 2015 and 2019 ARMPAs. These decisions retain the existing buffers in PHMA. Buffers are largest in PHMA, they were reduced in IHMA, and they are the smallest in GHMA. This change was made to align with the Governor's three-tier habitat approach where there are the most protections in the best habitat (i.e., PHMA) and there are fewer protections (smaller buffers) in the lesser quality habitats. RDFs in GHMA will be applied as Best Management Practices (BMPs). This decision also reorganized and streamlined the RDFs for easier application when designing implementation projects.

#### **S-1.7.8 Issue: Grazing Systems and Prioritization of Grazing Permits**

The COT Report includes a table that characterizes threats to Greater Sage-Grouse by population. One of the threats assessed included grazing. For all 12 Idaho populations assessed, threats from grazing were identified as "not known to be present" (see COT Report, Table 2, pages 16 through 29).

The COT Report objective for livestock grazing in general is to "conduct grazing management...in a manner consistent with local ecological conditions that maintains or restores healthy sagebrush shrub and native perennial grass and forb communities and conserves the essential habitat components for sage-grouse (e.g. shrub cover, nesting cover)" (COT Report, page 45). It goes on to note that "areas which do not currently meet this standard should be managed to restore these components." There are also objectives for range management structures ("avoid or reduce the impact of range management structures on sage-grouse"), and fences ("Minimize the impact of fences on sage-grouse populations"). The 2019 ARMPA livestock grazing management aligns with these objectives.

Livestock grazing management direction was revised to incorporate key components of the Governor's sage grouse plan into BLM Management Direction (MD). This included 1) removing the threshold and response requirement during livestock permit renewal and 2) reiterating that grazing is guided by the C.F.R. 4100 Regulations. The BLM will continue to apply its Idaho Rangeland Health Standards in livestock permit renewals. If the BLM determines that Idaho Rangeland Health Standards are not being met, and if grazing is determined to be a causal factor and impacting Greater Sage Grouse or its habitat, then the BLM will take appropriate action.

The 2019 ARMPA livestock grazing objectives and management actions are consistent with the COT report.



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# Appendix S-2

## Cumulative Effects Supporting Information



# Appendix S-2 Cumulative Effects Supporting Information

## S-2.1 RANGEWIDE IMPACTS FROM PAST, PRESENT, AND REASONABLY FORESEEABLE ACTIONS

**Table I** represents the past, present, and reasonably foreseeable actions across the entire range for Greater Sage-Grouse, which are separated by state. When assessing the cumulative impact of the DSEIS on Greater Sage-Grouse and its habitat, there are multiple geographic scales that the BLM has considered, including the appropriate WAFWA MZ. WAFWA MZs have biological significance to Greater Sage-Grouse. Established and delineated in 2004 in the *Conservation Assessment of Greater Sage-Grouse and Sagebrush Habitats* (Connelly et al. 2004), the WAFWA MZs are based on floristic provinces that reflect ecological and biological issues and similarities, not political boundaries.

**Table I**  
**Rangewide Impacts from Past, Present, and Reasonably Foreseeable Actions**

Action	Type	Effects
<b>Great Basin</b>		
Habitat Restoration Programmatic EIS	Great Basin-wide programmatic habitat restoration project	Programmatic document effects will be realized when the field implements projects. This action will provide opportunities to improve and enhance habitat through vegetation treatments.
Fuel Breaks Programmatic EIS	Great Basin-wide programmatic habitat fuel break project	Programmatic document effects will be realized when the field implements projects. This action will help to reduce the loss of habitat due to catastrophic fires.
Forest Service Greater Sage-Grouse Plan Amendments	Programmatic LUP amendments for Greater Sage-Grouse on Forest Service Lands in ID, UT, NV, CO, and WY	Programmatic document effects will be realized when the field undertakes projects to implement the LUP amendment. The FS is resolving protests. They have not made a decision.
<b>Northwest Colorado</b>		
Integrated program of work	Habitat restoration and improvement projects	Potential localized, short-term, adverse impacts on Greater Sage-Grouse habitat, with beneficial long-term impacts. Actions are consistent with those foreseen in the 2015 Final EIS and are therefore within the range of cumulative effects analyzed in the 2015 Final EIS.

Action	Type	Effects
Travel management	White River Field Office: Area-wide travel designations being considered through an ongoing plan amendment Little Snake Field Office: Travel Management plan, identifying route designations consistent with criteria in the 2015 LUPA	These actions represent implementation of objectives from 2015 ARMPA to prioritize travel management in Greater Sage-Grouse habitat. Impacts are covered in the cumulative impacts of the 2015 Final EIS as reasonably foreseeable.
Continued oil and gas development (60 parcels sold, but under review September 2019; Deferral of 6 parcels December 2019 lease sale; Deferral of 39 parcels in March 2020 lease sale; Potential lease of 1 parcel September 2020; Potential lease of 18 parcels December 2020).	Disturbance and fragmentation	Development is consistent with the reasonably foreseeable development scenarios analyzed as part of the 2015 Final EIS and the associated field office RMPs. Additional impacts are expected to be within the range analyzed in 2015 Final EIS cumulative impacts analysis.
<i>Plans</i>		
Northwest Colorado Programmatic Vegetation Treatment Environmental Assessment (DOI-BLM-CO-N000-2017-0001-EA) decision	Programmatic NEPA document for streamlining habitat treatments in sagebrush	-
<b>Idaho</b>		
Wildland fires 2015–2017	BLM: Past acres burned on BLM-administered land	534,744 acres of HMA burned since the ROD was signed in 2015. Post-fire rehabilitation was implemented. Too soon to determine the effectiveness of rehabilitation.
Habitat treatments 2015–2017	BLM: Past habitat improvement projects	431,295 acres treated to restore or improve potential Greater Sage-Grouse habitat. Too soon to determine the effectiveness of treatment.
ROWs issued 2015–2017	BLM: Past ROWs issued on BLM-administered land	97 ROWs were issued in the planning area but fewer than 10 were in Greater Sage-Grouse habitat and resulted in new habitat loss. The effects were mitigated, using the mitigation hierarchy.
Soda Fire restoration	BLM: Present habitat restoration and fuel break construction	Restoration of previously burned Greater Sage-Grouse habitat. Results in a net benefit to Greater Sage-Grouse habitat.
Twin Falls Vegetation Project	BLM: Present habitat treatment project that improves Greater Sage-Grouse habitat district-wide	Restoration of Greater Sage-Grouse habitat and improved rangeland conditions. Results in a net benefit to Greater Sage-Grouse habitat.
Idaho Falls Vegetation Project	BLM: Present habitat treatment project that improves Greater Sage-Grouse habitat district-wide	Restoration of Greater Sage-Grouse habitat and improved rangeland conditions. Results in a net benefit to Greater Sage-Grouse habitat.

<b>Action</b>	<b>Type</b>	<b>Effects</b>
Natural gas-producing well near Weiser, Idaho	Private: Present active gas well on private land	Well is not in Greater Sage-Grouse habitat.
Conifer removal	NRCS: Present (2018) 1,862 acres of conifer removal on private land to improve Greater Sage-Grouse habitat	Conifer removal would improve Greater Sage-Grouse habitat and open areas to Greater Sage-Grouse that were previously unavailable because of juniper encroachment.
Weed treatments	NRCS: Present (2018) 95 acres of weed treatments on private land to reduce noxious weeds in Greater Sage-Grouse habitat	Weed treatments allow the native vegetation to outcompete weeds on treated acres.
Water development	NRCS: Present (2018) 21,308 feet of pipeline and 40 watering tanks installed on private land	Water development to move livestock out of natural springs and wet meadows.
Pending ROWs 2015–2017	BLM: Future ROW under analysis on BLM-administered land. For example, ROWs include existing distribution lines, gravel pits, roads, canal diversions, etc.	123 ROW applications have been submitted and are pending review and analysis.
Boise District Vegetation Project	BLM: Future habitat treatment project that improves Greater Sage-Grouse habitat district-wide	Restoration of Greater Sage-Grouse habitat and improved rangeland conditions result in a net benefit to Greater Sage-Grouse habitat.
Tristate Fuel Breaks Project	BLM: Future Greater Sage-Grouse habitat protection	Fuel breaks would protect habitat from wildfires. Some sagebrush may be lost during fuel break construction. Results in a net benefit to Greater Sage-Grouse habitat.
Bruneau-Owyhee Sage-Grouse Habitat Project	BLM: Ongoing removal of juniper encroaching into Greater Sage-Grouse habitat	Bruneau-Owyhee Sage-Grouse Habitat Project would remove encroaching juniper from Greater Sage-Grouse habitat and render the habitat usable for Greater Sage-Grouse. Results in a net benefit to Greater Sage-Grouse habitat.
Conifer removal	NRCS: Future (2019–2023) 5,541 acres of conifer removal on private land to improve Greater Sage-Grouse habitat	Conifer removal would improve Greater Sage-Grouse habitat and open areas to Greater Sage-Grouse that were previously unavailable because of juniper encroachment.
Weed treatments	NRCS: Future (2019–2023) 357 acres of weed treatments on private land to reduce noxious weeds in Greater Sage-Grouse habitat	Weed treatments allow the native vegetation to outcompete weeds on treated acres.
Water development	NRCS: Present (2019–2023) 82,502 feet of pipeline and 46 watering tanks installed on private land	Water development to move livestock out of natural springs and wet meadows.
<b>Nevada and Northeast California</b>		
Wildland Fires 2015-2017	BLM: Past – Acres burned on BLM administered land	Approximately 1.3 million acres of HMA burned between 2015-2017. Post-fire restoration is being implemented as described below.

Action	Type	Effects
Fire Restoration (Emergency Stabilization and Rehabilitation)	BLM: Past and Present – Habitat restoration following wildland fires	1.8 million acres of habitat are either currently being treated or scheduled to be treated according to specific prescriptions outlined in Emergency Stabilization and Burned Area Rehabilitation plans following wildfire.
Habitat Treatments	BLM: Past – Habitat improvement projects	Over 176,000 acres of Greater Sage-Grouse habitat was treated between 2015-2017 to maintain or improve conditions for Greater Sage-Grouse. Treatments included conifer removal, fuel breaks, invasive species removal and habitat protection/restoration.
Land Use and Realty (issued and pending) 2015-2018	BLM: Past ROWs issued on BLM land	227 ROWs were issued in the planning area between 2015-2017. This includes amendments and reauthorizations, which may not have resulted in new disturbance. For ROWs occurring in Greater Sage-Grouse habitat, effects were offset using the mitigation hierarchy.
	BLM: Future pending	85 ROW applications are pending review and analysis. New ROWs would be held to the compensatory mitigation process described in this Proposed RMPA/Final EIS. However, no additional impacts from those described in the Draft EIS and 2015 Final EIS are expected. In addition, BLM Nevada is also currently evaluating a proposed withdrawal for expansion of the Fallon Naval Air Station, Fallon Range Training Complex for defense purposes.

Action	Type	Effects
Oil and Gas	BLM: Past	BLM has offered for lease 425,711 acres in HMAs; 407,478 of that total was leased. Lease stipulations apply as described in the leases according to HMA category.
	BLM: Past and Future	<p>BLM's scheduled lease sale on June 12, 2018 included offering a total 110,556 acres of HMAs for lease. After the sale, 30,591 acres in HMA were sold. On September 11, 2018, BLM held another lease sale, where 13,163 acres in HMA were sold. The final lease sale of 2018 for BLM Nevada is scheduled for December 11, 2018 and this sale will not include any parcels within HMA for lease.</p> <p>165 parcels have been moved from the November 12, 2019 O&amp;G lease sale, New sale date TBD. These parcels are all located in the Ely District. 220 parcels within Greater Sage-Grouse habitat have been moved to April 2020 lease sale.</p>

Action	Type	Effects
Geothermal	BLM: Past and Present	<p>Between 2015 and 2017, the BLM has offered for lease 24,468 acres within HMAs. Lease stipulations apply as described in the leases as analyzed in the 2015 Final EIS.</p> <p>Six geothermal development permits have been approved and drilled on existing pads on existing leases. McGinness Hills Phase 3 Environmental Assessment authorized up to 42 acres of disturbance on existing leases, which will be offset according to the mitigation hierarchy.</p> <p>Juniper Geothermal Project: Proposed activity – still waiting for baseline data to begin the EA. Analysis has not yet started but EA will analyze the 2015 and 2019 habitat types under separate alternatives.</p> <p>North Valley (San Emidio II) Geothermal Development Project. Analysis has not yet started but EA will analyze the 2015 and 2019 habitat types under separate alternatives.</p> <p>Baltazor Geothermal Project Pre NEPA. Analysis has not yet started but EA will analyze the 2015 and 2019 habitat types under separate alternatives.</p> <p>North Valley (San Emidio II) Geothermal Development Project</p>
Geothermal	Forest Service: Future Pending	6,901 acres of HMA pending Forest Service concurrence to lease, no pending geothermal development permits. If in HMAs, stipulations would be as described in 2015.
Locatable Mineral Projects	BLM: Past and Present	Between 2015 and 2017, the BLM has approved 18 new mines and/or expansions in the planning area, which is within the reasonably foreseeable development scenario outlined in the 2015 Final EIS (Section 5.1.16).
	BLM: Future Pending	The BLM is currently reviewing 20 plans of development for new mines or expansions, which is within the reasonably foreseeable development scenario outlined in the 2015 Final EIS (Section 5.1.16).
Fuel Breaks Programmatic EIS	BLM: Future – Great Basin-wide programmatic habitat fuel break project	Programmatic document effects will be realized when the field implements projects.



Action	Type	Effects
Greater Sage-Grouse Conservation	Forest Service- Future	Forest Service has indicated they will also be amending their land use plans. Specific details of their proposed changes are not yet known, but it is anticipated they propose alignment with state management plans and strategies.
Tri-State-Calico Complex Wild Horse and Burro Gather	BLM: Future	Removing wild horses will protect the rangelands from overgrazing and provide better habitat conditions for sage-grouse.
Thomas Creek Range Improvement Project (CA)	BLM: Future	Vegetation improvement project to improve the range for sage-grouse and other sage obligate species.
Juniper and Fuel Break Maintenance (CA)	BLM: Future	Juniper removal and fuelbreak project to remove encroaching juniper and protect the treatments with from wildfire.
Twin Peaks Horse Gather (CA)	BLM: Future	Removing wild horses will protect the rangelands from overgrazing and provide better habitat conditions for sage-grouse.
<b>Oregon</b>		
Emergency Stabilization and Rehabilitation in South Bull Ridge RNA	Aerial herbicide application	Preliminary results indicate success in treating annual grasses (2017).
Emergency Stabilization and Rehabilitation in South Ridge Bully Creek RNA	Aerial herbicide application	Preliminary results indicate success in treating annual grasses (2015).
Emergency Stabilization and Rehabilitation in North Ridge Bully Creek RNA	Aerial herbicide application	Preliminary results indicate success in treating annual grasses (2015).
Trout Creek Mountain	Grazing permit renewal	Grazing permit renewal allotment includes the East Fork Trout Creek Research Natural Area (2016).
Louse Creek Canyon Grazing Permit EIS	Grazing permit on 550,000 acres	Notice of Intent to prepare an EIS on grazing permit for 550,000 acres in Vale District (NOI September 2019)
Southeastern OR RMP Amendment	Wilderness, Wilderness characteristics	Draft EIS released for public review May 2019.
Lakeview RMP Amendment	Wilderness, Wilderness characteristics	Draft EIS anticipated August 2020.
Tristate Fuel Breaks Project	See Idaho description.	OR ROD to be completed/signed after Southeastern OR RMP amendment is completed.
Lakeview Resource Area Vegetation Management EA	Comprehensive vegetation management plan for the Lakeview Resource Area.	In development.

Action	Type	Effects
<b>Utah</b>		
<b>Fire and Fuels</b>		
Wildland Fires 2015-2017	Acres burned on BLM administered land	<p>Approximately 181,159 acres of PHMA/GHMA burned between 2015-2019. Post-fire restoration is being implemented across all population areas that are affected.</p> <p>Effects: Potential loss of habitat value due to the removal of vegetation by fire.</p>
Fire Restoration (Emergency Stabilization and Rehabilitation)	Acres of habitat restoration following wildland fires	<p>Approximately 380,704 acres of HMA were treated/restored between 2015-2019. All of these acres are being restored in according to specific prescriptions outlined in Emergency Stabilization and Burned Area Rehabilitation plans following wildfire across all population areas that are affected.</p> <p>Effect: Potentially improve or increase habitat due to vegetative restoration activities.</p>
<b>Vegetation</b>		
Habitat Treatments	Acres of habitat improvement projects	<p>Past: Over 270,000 acres of Greater Sage-Grouse habitat was treated between 2015-2019 to maintain or improve conditions for Greater Sage-Grouse across all populations. Treatments included conifer removal, fuel breaks, invasive species removal and habitat protection/restoration.</p> <p>Effect: Potentially improve or increase habitat due to vegetative restoration activities.</p> <p>Future: Over 524,702 acres of Greater Sage-Grouse habitat is being proposed for treatment over the next 5 years. Treatments will include conifer removal, fuel breaks, invasive species removal and habitat protection/restoration across all populations.</p> <p>Effect: Potentially improve or increase habitat due to vegetative restoration activities.</p>

Action	Type	Effects
<b>Lands and Realty</b>		
Land Use and Realty (issued and pending) 2015-2019	ROWs issued or pending on BLM land	<p>Past: Throughout the planning area (all BLM field offices in Utah except Saint George and Monticello) regardless of Greater Sage-Grouse habitat, 1,092 ROWs were issued between 2015 and 2019. However, only 109 of these were within PHMA.</p> <p>Effect: These numbers include amendments and reauthorizations, which would likely not have resulted in any new disturbance. For ROWs occurring in Greater Sage-Grouse habitat, effects were offset using the mitigation hierarchy.</p> <p>Future: Throughout the entire planning area, 225 ROW applications are pending review and analysis. Of these, only 30 are within PHMA.</p> <p>Effect: New ROWs would be held to the compensatory mitigation process described in this Proposed RMPA/Final EIS. However, no additional impacts from those described in the Draft EIS and 2015 Final EIS are expected.</p>
Zephyr Transmission Line	500 kV transmission line	<p>Application received – could impact the Bald Hills, Uintah, Carbon, Strawberry, Emery, and Sheeprocks populations.</p> <p>Effects: May remove vegetation due to construction activities. Towers may provide perching opportunities for avian predators. However, most of these impacts should be removed by management standards identified in the selected alternative.</p>
Enefit Utility Project	Five rights-of-way across public lands for infrastructure (a road, 3 pipelines, and 2 powerlines) to support development of a mine on private lands. Estimated 1,037 acres of disturbance for the rights-of-way (7,000-9,000 acre mine and 320-acre processing plant).	<p>ROD issued in September 2018. Issuance and constructions of ROWs still pending – could impact a portion of the Uintah population (Dead Man Bench GHMA).</p> <p>Effects: May remove vegetation due to construction activities. Increased maintenance activities could lead to an increase in collision mortalities. Any associated tall structures may provide perching opportunities for avian predators. However, most of these impacts should be removed by management standards identified in the selected alternative.</p>

Action	Type	Effects
Congressionally Directed Land Tenure Adjustments	Land Tenure Adjustments from the BLM to the State of Utah	<p>Table 1-2 in Chapter 1 shows the acres of public land with mapped PHMA and GHMA, establishing the summary of all past lands actions.</p> <p>In the National Defense Authorization Act for Fiscal Year 2017 Congress directed a land exchange between the BLM and State Institution and Trust Lands Administration (SITLA). This includes, approximately 2,400 acres of GHMA in the Sheeprocks area being studied for transfer to the State of Utah.</p> <p>In March 2019 Congress provided for land transfers in the John D. Dingell, Jr. Conservation, Management, and Recreation Act. This could include the BLM acquiring 2,065 acres of PHMA and 1,360 acres of GHMA in the Uinta population. It could also include the transfer of SITLA land in Congressional designations outside of Greater Sage-Grouse habitat for BLM lands throughout the state. While the list of involved lands has not been finalized, preliminary potential parcels include approximately 51,400 acres of PHMA and 1,870 acres of GHMA in the Rich, Carbon, Emery, Uinta, and Sheeprocks populations.</p> <p>Effects: Since compliance with the state's 2019 sage-grouse plan and the Governor's Executive Order on sage-grouse is voluntary for SITLA, transfers of PHMA from BLM would decrease the level of certainty for sage-grouse protection. However, since the lands involved in these Congressionally directed transfers has not been finalized at this time, the specific lands involved and, if transferred, their potential future uses are not known. It would be speculative to analyze beyond the above statement.</p>

Action	Type	Effects
<b>Leasable Minerals (Oil and Gas, Non-energy Leasable Minerals, Coal, and Oil Shale and Tar Sands)</b>		
Oil and Gas Leases	Acres of BLM land leased for Oil and Gas development	<p>Past: There are approximately 411,000 acres of PHMA and GHMA currently leased for fluid minerals. Approximately 195,000 acres of those leases are held by production.</p> <p>Effects: The act of leasing would have no direct effect, as no specific disturbance is taken as a result of purchasing a lease.</p> <p>Future: The BLM is required to conduct quarterly lease sales which could include parcels in HMA.</p> <p>Effect: The act of leasing would have no direct effect, as no specific disturbance is taken as a result of purchasing a lease.</p> <p>Leasing could occur in any of the populations, but would be most likely to impact the Uintah, Carbon, Emery, and Rich populations due to mineral potential.</p>

Action	Type	Effects
Oil and Gas Wells	Oil and Gas exploration and development	<p>Based upon the reasonable and foreseeable development assumptions in <b>Chapter 4</b>, it is anticipated that 2,968 oil and gas wells will be drilled within occupied Greater Sage-Grouse habitat within the population areas, of which 2,289 wells are anticipated to be producing wells. Exploration wells expected in all populations. Development wells anticipated in Uintah, Carbon, Emery, and Rich populations. This estimate would be inclusive of all related mineral development activities, including leasing, full-field development analyses, and APD analyses. Development associated with such actions is the actualization of the reasonably foreseeable development scenario estimate.</p> <p>Effect: The development of wells within these areas could lead to fragmentation and loss of habitat due to construction activities. Increased noise levels associated with traffic and compressors may impact lek attendance. Increased traffic associated with day-to-day operations may also increase the potential for collision mortality. However, most of these impacts should be removed by management standards identified in the selected alternative.</p>
Asphalt Ridge Tar Sands Development	Lease approximately 6,000 acres of Tar Sands Lands described in the Asphalt Ridge Tract, which is directly adjacent to existing approximately 16,000 acres of State leases	<p>Still in planning and NEPA stages – could impact a small portion of the Halfway Hollow portion of the Uintah population near Vernal and Highway 40.</p> <p>Effect: As a largely underground operation on BLM-administered lands, this would disturb a small amount of land associated with ancillary features. On the portions of the mine that would be mined through surface means, habitat would be lost and noise, dust, and light would affect adjacent areas.</p>

Action	Type	Effects
Flat Canyon Coal Lease by application	The Flat Canyon Coal Lease Tract is approximately 2,692 acres of federal coal reserves	<p>Forest Service completed the consent to BLM. Approximately 23 acres out of the 2,692 acres are within the Emery Population Area.</p> <p>Effect: The act of leasing would have no direct effect. However, the activities associated with development of the lease could result in loss of habitat and vehicle mortality due to increased traffic. Most of these impacts should be removed by management standards identified in the selected alternative.</p>
Alton Coal Tract Lease-by-Application	Add 3,576 acres of federal surface or mineral estate to existing 300-acre mine on private land.	<p>ROD issued in August 2018. The lease sale and issuance was completed in February 2019, and as such was developed to be in conformance with the 2015 Utah Greater Sage-Grouse ARMPA. As described in the July 2018 Alton Final EIS, development of the mine could impact a part of the southern habitat in the Panguitch population.</p> <p>Effect: Activities associated with development of the lease could result in loss of habitat and vehicle mortality due to increased traffic. Most of these impacts should be removed by management standards identified in the selected alternative, or offset by habitat improvements.</p>
Williams Draw Coal Lease by Application	The proposed action includes 4,200 acres of federal surface and mineral estate; the proposal may have several vents, drilling exploration holes on the surface and underground, and load-out facilities	<p>Still in planning and NEPA stages; could impact the Carbon population.</p> <p>Effect: The act of leasing would have no direct effect. However, the activities associated with development of the lease could result in loss of habitat and vehicle mortality due to increased traffic. Most of these impacts should be removed by management standards identified in the selected alternative.</p>

Action	Type	Effects
Greens Hollow Coal Lease by Application	Proposal includes 6,700 acres; a vent is proposed off site; minimal surface disturbances with the exception for exploration drilling	<p>The area has been leased, but development is on hold due to litigation. Would affect the Emery population.</p> <p>Effect: This is an expansion of an existing underground mine. Activities associated with development of the lease could result in the loss of a small amount of habitat from development of ancillary features (vent fan). Most mining activity (portal, truck traffic, etc.) occurs down the cliff face, far removed from the habitat. Most of these impacts would be removed by management standards identified in the selected alternative.</p>
Flat Canyon Coal Lease by Application	Lease by Application 3,792 acres; and Exploration License, 595 acres	<p>Leased and under production in the Carbon population.</p> <p>Effect: The act of leasing would have no direct effect. However, the activities associated with development of the lease could result in loss of habitat and vehicle mortality due to increased traffic. Most of these impacts should be removed by management standards identified in the selected alternative.</p>
Gilsonite Leasing	16,810 acres that are currently under prospecting permit application; the permits would either be issued or a Known Gilsonite Leasing Area would be established, thus allowing competitive leasing	<p>The prospecting permit applications have been in place since the late 1980s; Known Gilsonite Leasing Area report ongoing, after which NEPA will begin to address backlogs for these areas in the Uintah population.</p> <p>Effect: Activities associated with development or prospecting of the permit / lease could result in loss of habitat and vehicle mortality due to increased traffic. Most of these impacts should be removed by management standards identified in the selected alternative.</p>



Action	Type	Effects
Phosphate Fringe Acreage Lease	1,627 acres of fringe acreage lease on BLM-administered lands	<p>NEPA has started and awaiting a Development Scenario to complete the NEPA for this expansion of an existing phosphate mine in the Diamond Mountain portion of PHMA in the Uintah population.</p> <p>Effect: The act of leasing would have no direct effect. However, the activities associated with development of the lease could result in loss of habitat and vehicle mortality due to increased traffic. Most of these impacts should be removed by management standards identified in the selected alternative.</p>
Phosphate Competitive Lease Application	1,186 acres on National Forest System lands	<p>NEPA has started and awaiting a Development Scenario to complete the NEPA for this area in the Uintah population.</p> <p>Effect: Activities associated with development of the lease could result in loss of habitat and vehicle mortality due to increased traffic. Most of these impacts should be removed by management standards identified in the selected alternative.</p>
<b>Other Items</b>		
Hard Rock Prospecting Permits being considered on Bankhead Jones	Hard rock exploration permits	<p>Pending consideration for this area in the Sheeprocks population.</p> <p>Effect: Activities associated with development of the lease could result in loss of habitat, vehicle mortality due to increased traffic and disruption of seasonal use areas. Most of these impacts should be removed by management standards identified in the selected alternative.</p>
Gooseberry Narrows Reservoir	Bureau of Reclamation project on Forest Service and private land; project is approximately 1,200 acres	<p>EIS is complete, pending EPA review and approval for this portion of the Carbon population.</p> <p>Effect: Activities associated with construction and operation of the reservoir would result in loss of habitat within the project area and a potential increase for vehicle mortality due to increased traffic. However, the habitat lost within the project area may be supplemented by improving the quality and seasonal functionality of the adjacent habitat. Most of the impacts should be removed by management standards identified in the selected alternative.</p>

Action	Type	Effects
Uinta Basin Railway	Development of a railway that begins in the Uinta Basin, and terminates at a location that connects to the national rail system.	<p>The project is in the early stages of consideration. Scoping was conducted by the Surface Transportation Board in June-August, 2019. The EIS is currently being developed. There is not a preferred alternative, but based on the early alternatives, one alternative alignment could affect GHMA in the Uinta Population, and others could affect PHMA in the Emma Park portion of the Carbon Population.</p> <p>Effect: Construction of the railway could result in a direct loss of habitat. Use of the railway could result in noise that would displace birds from preferred habitats. The occurrence and magnitude of these impacts would vary based on alternative alignment and mitigation measures applied.</p>
Motorized Travel Plan Implementation	Implementation of motorized route designation plans across the planning region	<p>Implementation actions underway statewide, with travel planning reasonably foreseeable in the Sheeprocks, Uintah, Carbon and Panguitch populations.</p> <p>Effect: The development of a motorized travel plan would potential help to reduce fragmentation of habitat and centralizing disturbance into areas of lesser importance.</p>
Forest Service Greater Sage-Grouse Planning	Forest Service and Utah Division of Wildlife Resources	<p>Forest Service is in the process of amending their land use plans. Their proposed changes are similar with those considered in this EIS, and would increase alignment with state management plans and strategies. Applicable to all Greater Sage-Grouse populations with National Forest System Lands.</p> <p>Effect: This effort will help to align the Forest Service's plan to be more consistent with the State of Utah's plan and provide the adequate management actions necessary to protect and conserve the Greater Sage-Grouse.</p>

Action	Type	Effects
State of Utah Greater Sage-Grouse Management	Update of the State's Conservation Plan for Greater Sage-Grouse in Utah, as well as implementation of the State's compensatory mitigation rule	<p>Past: The State updated their Greater Sage-Grouse plan in January 2019, incorporating the compensatory mitigation rule that provides a process to develop a banking system to apply the state's 4:1 mitigation ratio that is designed to improve habitat for Greater Sage-Grouse.</p> <p>Effect: This new plan refines and identifies areas to improve management actions and allow for the incorporation of new and local science to better balance Greater Sage-Grouse management across the state. It provides management to maintain and improve Greater Sage-Grouse populations, as well as a framework for managing habitat on state and private land. It also provides an opportunity for economic development to occur while offsetting the impacts to habitat quality.</p>
<b>Wyoming</b>		
Wildland Fires 2015-2020	BLM: Past – Acres burned on BLM administered land	Approximately 301,000 acres of HMA burned between 2015 and 2020. Post-fire restoration and habitat treatments are being implemented, as described below, to diminish impacts of habitat lost to wildland fire.
Fire Restoration (Emergency Stabilization and Rehabilitation)	BLM: Past and Present – Habitat restoration following wildland fires	Approximately 5,443 acres of BLM-administered habitat are either currently being treated or scheduled to be treated according to specific prescriptions outlined in Emergency Stabilization and Burned Area Rehabilitation plans following wildfire.
Habitat Treatments	BLM: Past – Habitat improvement projects	More than 96,000 acres of Greater Sage-Grouse habitat were treated between 2015 and 2020 to maintain or improve conditions for Greater Sage-Grouse. Treatments included conifer removal, fuel breaks, invasive species removal and habitat protection/restoration.

Action	Type	Effects
Land Use and Realty (issued and pending) 2015-2018	BLM: Past ROWs issued on BLM land	BLM Wyoming issued approximately 3,720 ROWs in the planning area between 2015-2020. This includes amendments and reauthorizations, which may not have resulted in new disturbance. For ROWs occurring in Greater Sage-Grouse habitat, effects were offset by the management prescriptions in the RMPs and ARMPA.
	BLM: Future pending	There are approximately 653 ROW applications pending review and analysis. New ROWs under the 2018 Proposed Plan would align with the management prescriptions of the Core Area Strategy and State of Wyoming Mitigation Framework. No additional cumulative impacts are anticipated, beyond those described.
		Miller Mountain Land Exchange would resolve public access issues and improve landscape scale management of resources by consolidating BLM lands in the area.
Oil and Gas	BLM: Past	Chokecherry and Sierra Madre Wind Energy Development Project, Phase II Turbine Development (EA3)
		BLM Wyoming has offered for lease 5,052,795.01 acres; 2,621,838.82 acres of that total was leased. Leases followed management prescriptions in the RMPs and ARMPA and stipulations apply as described in the leases according to HMA category.
	BLM: Future pending	BLM Wyoming has a scheduled lease sale in September 2020 that will offer 351,680.945 acres for lease.
		The actions in the 2018 Proposed Plan do not propose to change stipulations analyzed in the 2014 and 2015 plans.

Action	Type	Effects
Locatable Mineral Projects	BLM: Past and Present	Between 2015-2020 <sup>[1]</sup> , the BLM has approved 24 new mines and/or expansions within the planning area (including non-habitat). The 2018 Proposed Plan does not propose changes to any decisions associated with locatable minerals, which were sufficiently analyzed on the existing plans.  <sup>[1]</sup> This covers all authorized operations through first quarter 2020, it does not include the pending operations that are currently under review.
	BLM: Future pending	The BLM is currently reviewing 4 plans of operation for new mines, mine expansions and 5 notice-level activities. This number does not include the 10 pending mine patents, which are in the process of being patented into private ownership. The 2018 Proposed Plan does not propose changes to any decisions associated with locatable minerals, and future impacts would be analyzed in future EISs, adhering to existing requirements of the RMPs and ARMPA.
Leasable Mineral Projects (Coal)	BLM: Past and Present	Two coal lease modifications were issued in 2018, totaling 1,306.61 acres. For lease modifications occurring in Greater Sage-Grouse habitat, effects were offset by the management prescriptions in the RMPs and ARMPA.
	BLM: Future pending	BLM Wyoming is currently reviewing 3 coal lease applications/modifications totaling 10,344.21 acres, however these applications are currently on hold. No management decisions for leasable minerals are proposed for change under the 2018 Proposed Plan.

Action	Type	Effects
<b>Other items</b>		
Buffalo RMP Coal Supplemental EIS and Amendment	BLM: Past - Planning	<p>Final EIS published November 4, 2019. Record of Decision signed November 22, 2019</p> <p>The Buffalo Field Office addressed deficiencies through the preparation of a Draft Supplemental EIS that considered climate change and downstream combustion, and analyzed alternatives that reduce the amount of coal available for leasing.</p> <p>Effect: Since no alternative proposed different management for Greater Sage-Grouse from the sage-grouse planning process, there are no cumulative effects not already address in the impact analysis above.</p>
Alkali Creek Reservoir Project EIS	BLM: Past - The Wyoming Water Development Commission (WWDC) proposed to construct a 294-acre reservoir on Alkali Creek and ancillary facilities across public and private land near Hyattville, Wyoming. The reservoir will impound approximately 7,994 acre-feet of water under normal conditions, and 9,872 acre-feet when under flood conditions.	<p>Final EIS published May 2019. Record of Decision issued on November 18, 2019.</p> <p>The reservoir will provide late-season irrigation water for portions of the Nowood River Watershed. The irrigation pool (currently modeled at 5,996 acre-feet) will be available either directly or through exchange for irrigation water.</p> <p>Effect: Since no alternative proposed different management for Greater Sage-Grouse from the sage-grouse planning process, there will be no cumulative effects not already address in the impact analysis above.</p>
Leavitt Reservoir Expansion Project EIS	BLM: Past - The WWDC proposed to expand the existing Leavitt Reservoir near Shell, Wyoming, from a pool of 643 acre-feet to 6,404 acre-feet.	<p>The purpose of the project is to provide late season irrigation for agriculture in the Shell Valley.</p> <p>Effect: Since no alternative proposed different management for Greater Sage-Grouse from the sage-grouse planning process, there will be no cumulative effects not already address in the impact analysis above.</p>

Action	Type	Effects
Rock Springs RMP Revision EIS	BLM: Future pending - Development of a resource management plan revision	<p>The planning area includes lands within the Rock Springs Field Office administrative boundary in Sweetwater, Lincoln, Uinta, Sublette, and Fremont counties in southwestern Wyoming. The decision area consists of 3.6 million acres of BLM-administered surface and 3.7 million acres of federal mineral estate. The revised RMP will replace the 1997 Green River RMP. A Comprehensive Travel and Transportation Plan for the entire field office, as well as an additional socioeconomic modeling effort coordinated with cooperating agencies are being incorporated into the RMP Revision.</p> <p>Effect: Since no alternative proposes different management for Greater Sage-Grouse from the sage-grouse planning process, there will be no cumulative effects not already address in the impact analysis above.</p>

Action	Type	Effects
Wild Horse Management for the BLM Rock Springs and Rawlins Field Offices Plan Amendment EIS	BLM: Future pending - Development of a resource management plan amendment	<p>In April 2013, the Department of the Interior, the BLM and the Rock Springs Grazing Association signed a consent decree requiring the BLM to initiate NEPA analysis to consider the environmental effects of modifying management levels of wild horses in specified herd management areas. An NOI was issued, initiating public scoping to amend the 2008 Rawlins RMP in conjunction with the Rock Springs RMP revision. Prior to Spring 2019, the wild horse management decisions were being evaluated through the ongoing Rock Springs Resource Management Plan revision, with included amendment to the Rawlins RMP for the Adobe Town HMA. However, due to delays in the ongoing RMP revision related to expansion of energy development opportunities, the decision was made to expedite a separate EIS document specific to wild horse management actions.</p> <p>Effect: Since no alternative proposes different management for Greater Sage-Grouse from the sage-grouse planning process, there will be no cumulative effects not already address in the impact analysis above.</p>
Converse County Oil and Gas Project EIS	BLM: Future pending – Proposed action includes development of 5,000 new oil and gas wells on 1,500 well pads.	<p>The project area encompasses roughly 1.5 million acres of split estate mixed surface ownership lands. The operators propose to develop the wells over 10 years, with the life of the project anticipated to be 20 to 30 years.</p> <p>Effect: Since no alternative proposes different management for Greater Sage-Grouse from the sage-grouse planning process, there will be no cumulative effects not already address in the impact analysis above.</p>



Action	Type	Effects
Moneta Divide Natural Gas and Oil Development Project EIS	BLM: Future pending – Proposed action includes development of 4,250 natural gas wells and associated infrastructure.	<p>The project area is located in Fremont and Natrona counties and encompasses approximately 265,000 acres of land. The life of the proposed project is estimated to be 40 years. Additional potential development, which would require additional NEPA analysis, include pipelines to transport treated, produced water from the production areas west to Boysen Reservoir and a pipeline transporting natural gas from the production areas to Wamsutter, Wyoming, in the Rawlins Field Office.</p> <p>Effect: Since no alternative proposes different management for Greater Sage-Grouse from the sage-grouse planning process, there will be no cumulative effects not already address in the impact analysis above.</p>
Wyoming Pipeline Corridor Initiative (WPCI)	BLM: Future pending - The Wyoming Pipeline Corridor Initiative is a proposal from the State of Wyoming to designate almost 2,000 miles of pipeline corridors across private, state and BLM-managed lands in Wyoming. Approximately 1,150 miles of the proposed corridors are located on BLM managed lands.	<p>The project would designate a statewide pipeline corridor network for future development of pipelines associated with carbon capture, utilization and storage, as well as pipelines and facilities associated with enhanced oil recovery. The project will not authorize any new pipelines or construction but will amend several BLM Resource Management Plans across the state to make future analysis of project specific proposals more efficient.</p> <p>One of the primary purposes of the pipeline corridor network is to connect existing oil fields suitable for enhanced oil recovery (EOR) with anthropogenic and natural carbon dioxide (CO<sub>2</sub>) sources. The CO<sub>2</sub> will be injected into existing, often “played-out” oil fields, thereby increasing oil production beyond conventional recovery methods with little additional surface disturbance.</p> <p>Effect: Since no alternative proposes different management for Greater Sage-Grouse from the sage-grouse planning process, there will be no cumulative effects not already address in the impact analysis above.</p>

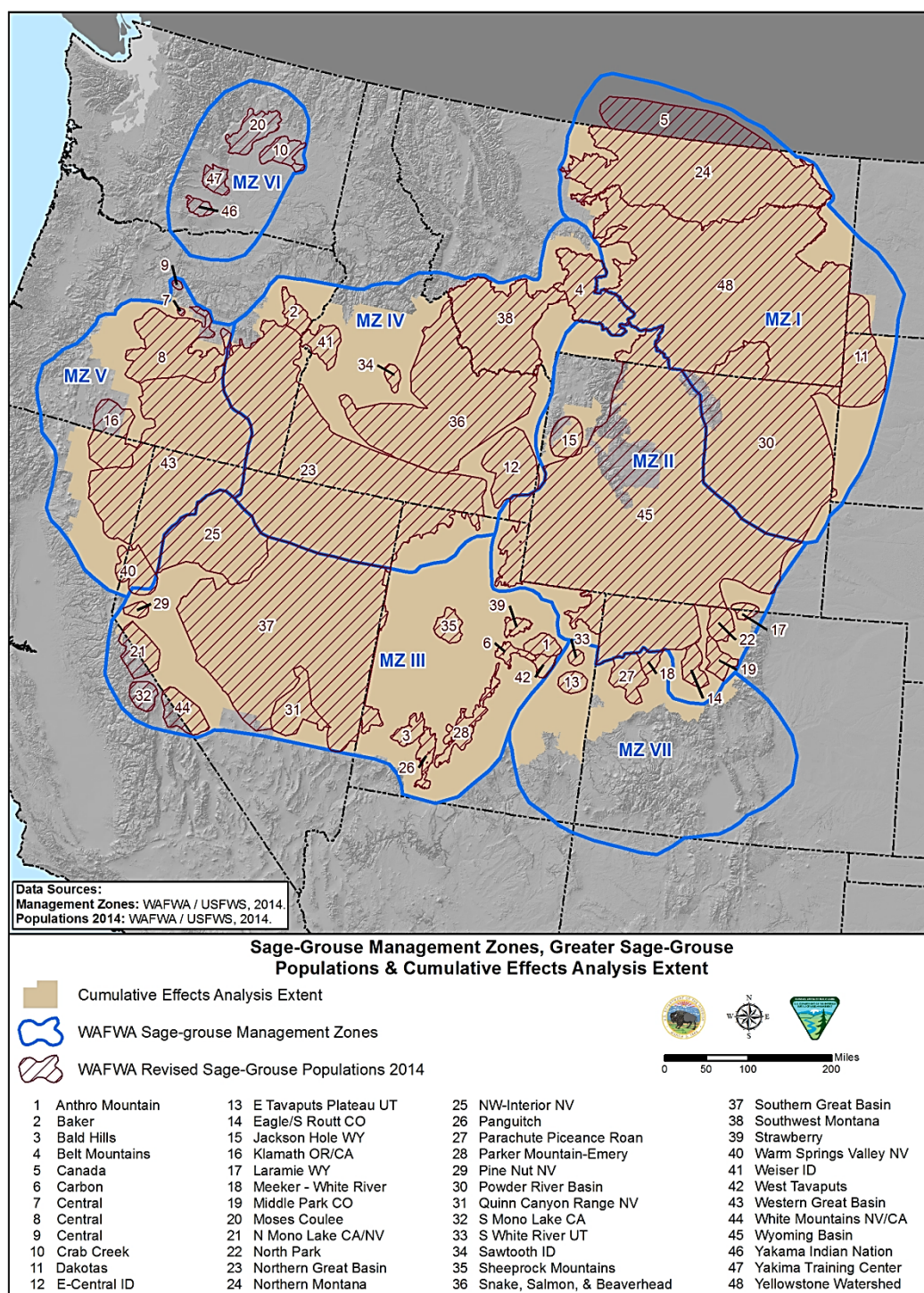
Action	Type	Effects
Greater Sage-Grouse Conservation	Forest Service: Future	Forest Service has indicated they will also be amending their land use plans. Specific details of their proposed changes are not yet known, but it is anticipated they will propose alignment with state management plans and strategies.

## **S-2.2 CUMULATIVE EFFECTS ANALYSIS – HABITAT AND ALLOCATION DECISION SUMMARIES FOR THE NO ACTION & MANAGEMENT ALIGNMENT ALTERNATIVES BY MANAGEMENT ZONE**

Data representing the final plan allocation decisions and habitat delineations collected by the BLM upon the completion of the 2015 planning process has been updated or corrected relative to the final allocation decisions from the 2015 plans to reflect maintenance related changes, adaptive management responses, or refined source data. The BLM used these data to represent the No Action alternative for the current plan analysis. The BLM then identified 2015 data which are not subject to change in any alternatives associated with the 2018 planning process. These data were carried forward as the alternative allocation decision data. The BLM was also able to provide allocation decision data representing changes included in the 2018 Draft EIS alternatives, which were then used in the comparative analysis. Decision data are summarized by habitat type within each Management Zone (see Figure 1) and are presented in this Appendix in both approximate acreage of BLM managed lands within each habitat designation as well as percent of BLM lands within a habitat designation to which an allocation decision applies. For programs where allocation decisions change, information is presented separately. In cases where no change has occurred, both alternatives are presented together. BLM Montana is currently not undergoing a plan amendment process, however data were included in this cumulative effects summary. A summary of data submitted for this analysis can be found in **Table I**, detailing which areas did not provide data for analysis. In these cases, summaries reflect submitted data only. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

**Table 2**  
**Data Submission Summary for Cumulative Effects Analysis. Y = Data submitted, N = No data submitted, followed by which area within the State that did not provide data.**

Program Area	Colorado	Idaho	Montana & The Dakotas	Nevada/NE California	Oregon	Utah	Wyoming
Geothermal Energy	Y	Y	N – Miles City, Lewistown, Billings, UMRBNM	Y	Y	Y	N – Bighorn Basin
Land Tenure	Y	Y	Y	Y	Y	Y	Y
Livestock Grazing	Y	Y	Y	Y	Y	Y	Y
Locatable Minerals	Y	Y	Y	Y	Y	Y	Y
Non-Energy Leasable Minerals	Y	Y	N – Miles City, Billings	Y	Y	Y	N – Bighorn Basin, Buffalo, Wyoming (9-Plan)
Fluid Mineral Leasing (Oil & Gas)	Y	Y	N - Lewistown	Y	Y	Y	Y
Rights-of-Ways	Y	Y	Y	Y	Y	Y	Y
Salable-Mineral Materials Disposals	Y	Y	Y	Y	Y	Y	Y
Solar Energy	Y	Y	Y	Y	Y	Y	N – Bighorn Basin, Buffalo, Lander, Wyoming (9-Plan)
Trails and Travel Management	Y	Y	Y	Y	Y	Y	Y
Wind Energy	Y	Y	Y	Y	Y	Y	Y



**Figure I – Cumulative Effects Analysis Extent, Sage-Grouse Management Zones and Populations**

### S-2.2.1 Management Zone I – WY, MT, ND, SD

#### I. Habitat Management

**Table 3 – Habitat Management Areas within MZ I**

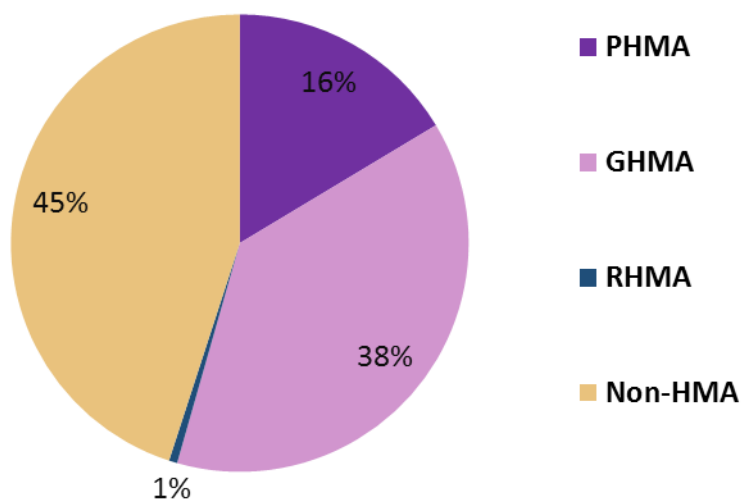
Acres and percentages reflect all lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

Approximate Acres of HMA in MZ I							
No Action				Management Alignment			
PHMA	GHMA	RHMA <sup>1</sup>	Non-HMA	PHMA	GHMA	RHMA	Non-HMA
12,122,000	28,339,000	437,000	33,467,000	12,122,000	28,339,000	437,000	33,467,000

Approximate Percent of MZ I that is HMA							
No Action				Management Alignment			
PHMA	GHMA	RHMA	Non-HMA	PHMA	GHMA	RHMA	Non-HMA
16%	38%	1%	45%	16%	38%	1%	45%

**No Action & Management Alignment- MZ I -  
Habitat Management Areas within the Planning  
Area**



**Figure 2 - Habitat Management Areas within MZ I**

Percentages reflect all lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

<sup>1</sup> Restoration Habitat Management Area (RHMA)

## II. Geothermal Energy

**Table 4 – Geothermal Energy Decisions within MZ I**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding.

<sup>1</sup> Data not available for portions of MT and WY. Calculations reflect only the portions of the MZ where data was available. All figures and tables are intended for Management Zone summary purposes only.

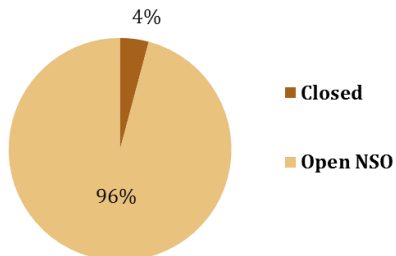
They represent data available at the time of consolidation and may be revised as Plans are finalized.

Consult each individual EIS for final/official acreages.

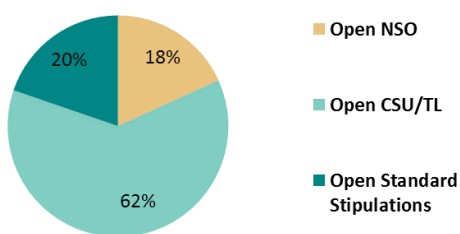
<b>Approximate Acres of Geothermal Decisions<sup>1</sup> in MZ I by Habitat Management Area Type</b>					
<b>Geothermal Energy</b>	<b>No Action &amp; Management Alignment</b>				
	<b>PHMA</b>	<b>GHMA</b>	<b>RHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	86,000	0	NA	86,000	<b>172,000</b>
Open NSO	1,988,000	130,000	NA	230,000	<b>2,349,000</b>
Open CSU/TL	0	443,000	NA	1,071,000	<b>1,514,000</b>
Open Standard Stipulations	0	141,000	NA	372,000	<b>514,000</b>
<b>Total</b>	<b>2,074,000</b>	<b>714,000</b>	<b>NA</b>	<b>1,760,000</b>	<b>4,548,000</b>

<b>Approximate % of Habitat Management Area by Geothermal Decision<sup>1</sup> within Habitat in MZ I</b>					
<b>Geothermal Energy</b>	<b>No Action &amp; Management Alignment</b>				
	<b>PHMA</b>	<b>GHMA</b>	<b>RHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	4%	0%	NA	5%	<b>4%</b>
Open NSO	96%	18%	NA	13%	<b>52%</b>
Open CSU/TL	0%	62%	NA	61%	<b>33%</b>
Open Standard Stipulations	0%	20%	NA	21%	<b>11%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>NA</b>	<b>100%</b>	<b>100%</b>

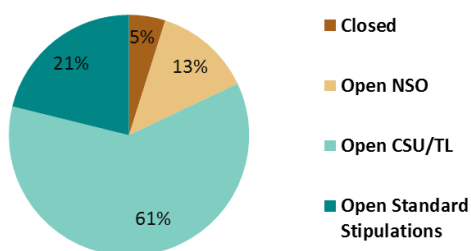
**No Action & Management Alignment -  
PHMA - Geothermal Energy**



**No Action & Management Alignment - GHMA -  
Geothermal Energy**



**No Action & Management Alignment - Non-  
HMA - Geothermal Energy**



**Figure 3 – Geothermal Energy Decisions within MZ I**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. <sup>1</sup> Data not available for portions of MT and WY. Calculations reflect only the portions of the MZ where data was available. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

### III. Land Tenure

**Table 5 – Land Tenure Decisions within MZ I**

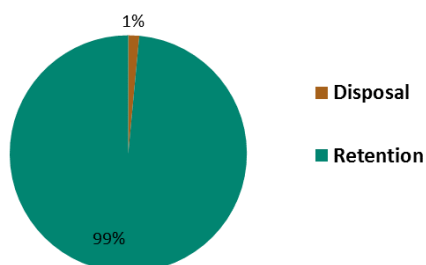
Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

Approximate Acres of Land Tenure Decisions in MZ I by Habitat Management Area Type					
Land Tenure	No Action & Management Alignment				
	PHMA	GHMA	RHMA	Non-HMA	Total
Disposal	49,000	167,000	0	143,000	359,000
Retention	3,259,000	2,997,000	159,000	1,538,000	7,953,000
<b>Total</b>	<b>3,308,000</b>	<b>3,164,000</b>	<b>159,000</b>	<b>1,681,000</b>	<b>8,312,000</b>

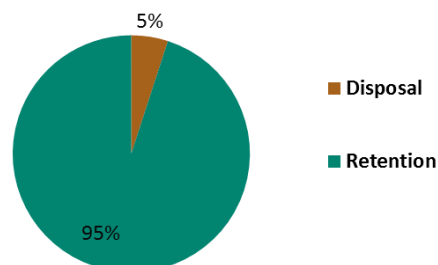
  

Approximate % of Habitat Management Area by Land Tenure Decision within Habitat in MZ I					
Land Tenure	No Action & Management Alignment				
	PHMA	GHMA	RHMA	Non-HMA	Total
Disposal	1%	5%	0%	9%	4%
Retention	99%	95%	100%	91%	96%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

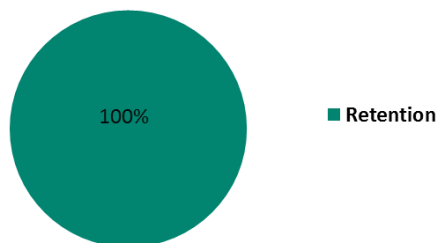
No Action & Management Alignment - PHMA  
- Land Tenure



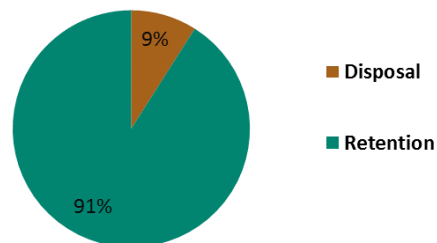
No Action & Management Alignment - GHMA - Land Tenure



No Action & Management Alignment - RHMA - Land Tenure



No Action & Management Alignment - Non-HMA - Land Tenure



**Figure 4 – Land Tenure Decisions within MZ I**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.



#### IV. Livestock Grazing

**Table 6 – Livestock Grazing Decisions within MZ I**

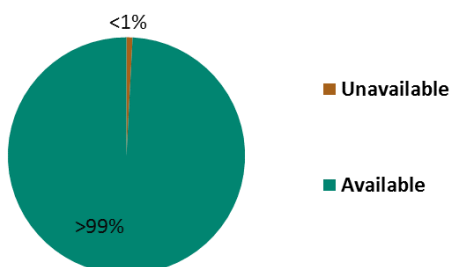
Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

Approximate Acres of Livestock Grazing Decisions in MZ I by Habitat Management Area Type					
Livestock Grazing	No Action & Management Alignment				
	PHMA	GHMA	RHMA	Non-HMA	Total
Unavailable	3,000	8,000	0	12,000	23,000
Available	3,303,000	3,186,000	158,000	1,632,000	8,279,000
<b>Total</b>	<b>3,306,000</b>	<b>3,194,000</b>	<b>158,000</b>	<b>1,644,000</b>	<b>8,302,000</b>

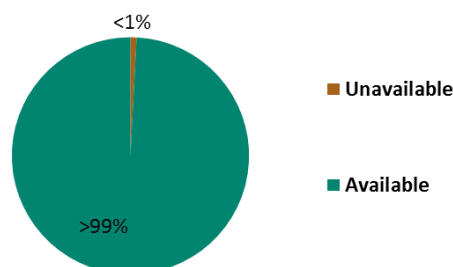
  

Approximate % of Habitat Management Area by Livestock Grazing Decision within Habitat in MZ I					
Livestock Grazing	No Action & Management Alignment				
	PHMA	GHMA	RHMA	Non-HMA	Total
Unavailable	<1%	<1%	0%	<1%	<1%
Available	100%	100%	100%	100%	100%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

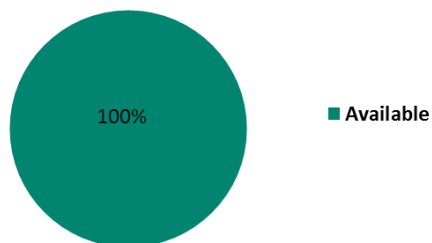
No Action & Management Alignment -  
PHMA - Livestock Grazing



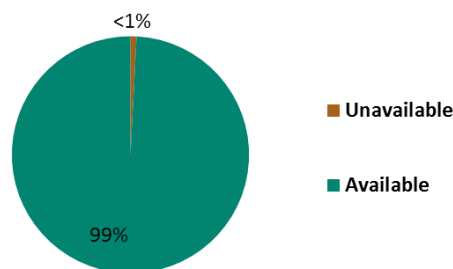
No Action & Management Alignment -  
GHMA - Livestock Grazing



No Action & Management - RHMA -  
Livestock Grazing



No Action & Management - Non-HMA -  
Livestock Grazing



**Figure 5 – Livestock Grazing Decisions within MZ I**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

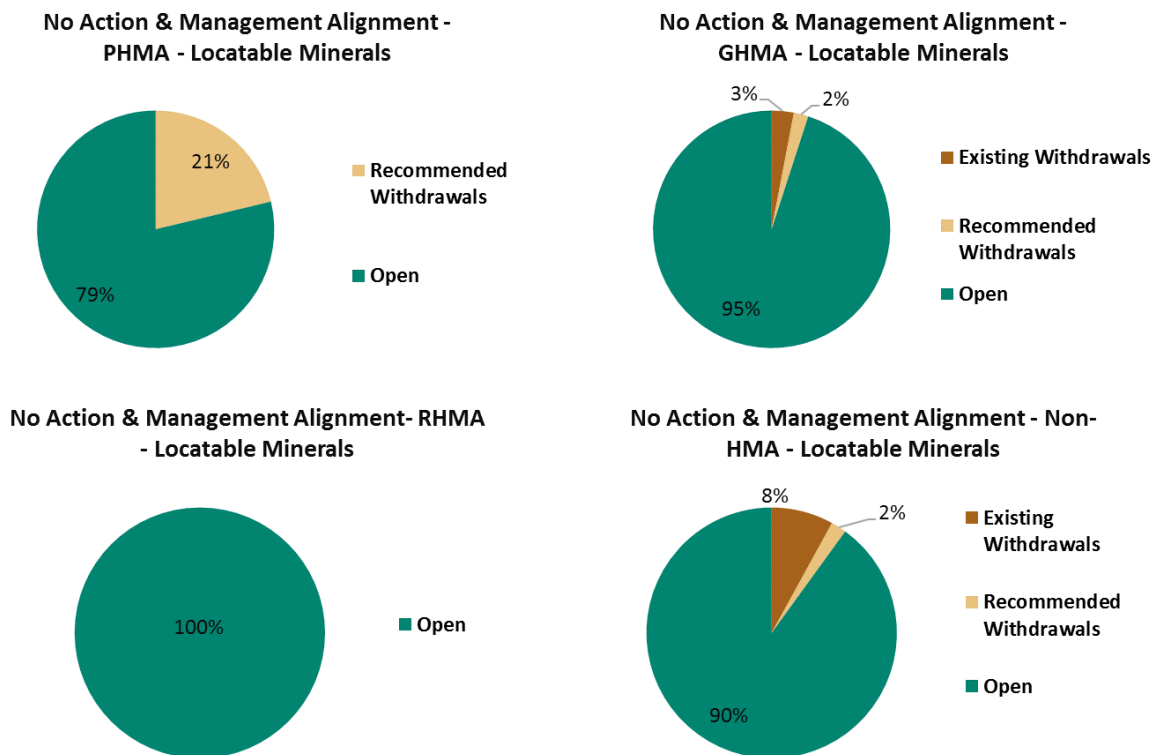
**V. Locatable Minerals****Table 7 – Locatable Minerals Decisions within MZ I**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages. <sup>2</sup> MT Recommended Withdrawals Decisions in PHMA will be removed via plan maintenance.

<b>Approximate Acres of Locatable Minerals Decisions<sup>2</sup> in MZ I by Habitat Management Area Type</b>					
<b>Locatable Minerals</b>	<b>No Action &amp; Management Alignment</b>				
	<b>PHMA</b>	<b>GHMA</b>	<b>RHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Existing Withdrawals	22,000	203,000	0	240,000	<b>465,000</b>
Recommended Withdrawals	1,094,000	166,000	0	46,000	<b>1,306,000</b>
Open	4,053,000	7,132,000	164,000	2,688,000	<b>14,037,000</b>
<b>Total</b>	<b>5,169,000</b>	<b>7,501,000</b>	<b>165,000</b>	<b>2,974,000</b>	<b>15,808,000</b>

<b>Approximate % of Habitat Management Area by Locatable Minerals Decisions<sup>2</sup> within Habitat in MZ I</b>					
<b>Locatable Minerals</b>	<b>No Action &amp; Management Alignment</b>				
	<b>PHMA</b>	<b>GHMA</b>	<b>RHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Existing Withdrawals	<1%	3%	<1%	8%	<b>3%</b>
Recommended Withdrawals	21%	2%	0%	2%	<b>8%</b>
Open	79%	95%	100%	90%	<b>89%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>



**Figure 6 – Locatable Mineral Decisions within MZ I**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages. <sup>2</sup> MT Recommended Withdrawals Decisions in PHMA will be removed via plan maintenance.

**VI. Non-Energy Leasable Minerals****Table 8 – Non-Energy Leasable Minerals Decisions within MZ I**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding.

<sup>3</sup> Data not available for portions of MT and WY. Calculations reflect only the portions of the MZ where data was available. All figures and tables are intended for Management Zone summary purposes only.

They represent data available at the time of consolidation and may be revised as Plans are finalized.

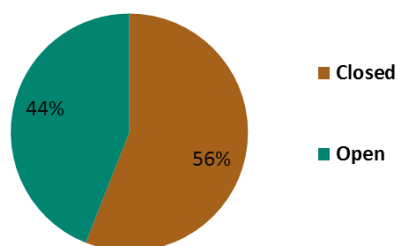
Consult each individual EIS for final/official acreages.

<b>Approximate Acres of Non-Energy Leasable Minerals<sup>3</sup> Decisions in MZ I by Habitat Management Area Type</b>					
<b>Non-Energy Leasable Minerals</b>	<b>No Action &amp; Management Alignment</b>				
	<b>PHMA</b>	<b>GHMA</b>	<b>RHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	2,432,000	296,000	NA	355,000	<b>3,083,000</b>
Open	1,900,000	6,205,000	NA	2,463,000	<b>10,568,000</b>
<b>Total</b>	<b>4,332,000</b>	<b>6,501,000</b>	<b>NA</b>	<b>2,818,000</b>	<b>13,651,000</b>

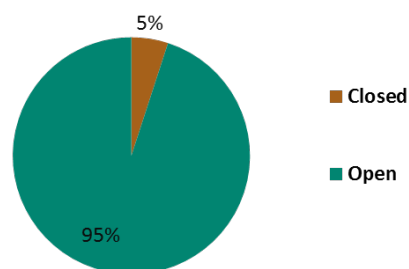
  

<b>Approximate % of Habitat Management Area by Non-Energy Leasable Minerals<sup>3</sup> Decision within Habitat in MZ I</b>					
<b>Non-Energy Leasable Minerals</b>	<b>No Action &amp; Management Alignment</b>				
	<b>PHMA</b>	<b>GHMA</b>	<b>RHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	56%	5%	NA	13%	<b>23%</b>
Open	44%	95%	NA	87%	<b>77%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>NA</b>	<b>100%</b>	<b>100%</b>

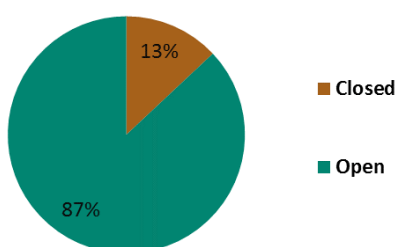
No Action & Management Alignment- PHMA  
- Non-Energy Leasable Minerals



No Action & Management Alignment -  
GHMA - Non-Energy Leasable Minerals



No Action & Management Alignment - Non-  
HMA - Non-Energy Leasable Minerals



**Figure 7 – Non-Energy Leasable Minerals Decisions within MZ I**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. <sup>3</sup> Data not available for portions of MT and WY. Calculations reflect only the portions of the MZ where data was available. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

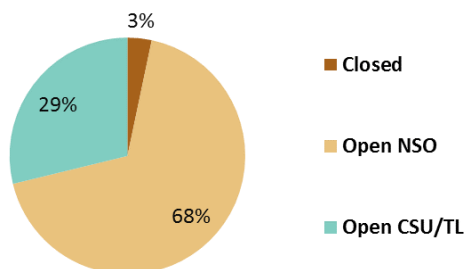
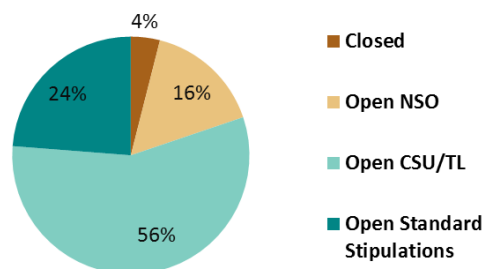
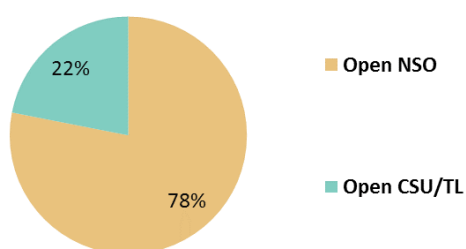
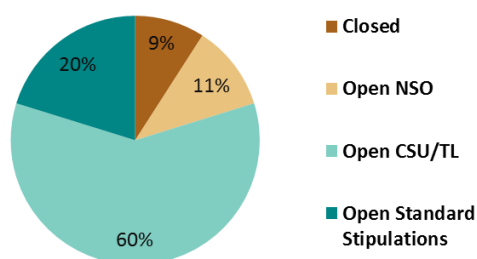
**VII. Fluid Minerals (Oil & Gas)****Table 9 – Fluid Minerals (Oil & Gas) Decisions within MZ I**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. <sup>4</sup>Data not available for portions of MT. Calculations reflect only the portions of the MZ where data was available. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

<b>Approximate Acres of Fluid Minerals (Oil a&amp; Gas) Decisions<sup>4</sup> in MZ I by Habitat Management Area Type</b>					
<b>Fluid Minerals (Oil and Gas)</b>	<b>No Action &amp; Management Alignment</b>				
	<b>PHMA</b>	<b>GHMA</b>	<b>RHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	196,000	328,000	0	346,000	<b>870,000</b>
Open NSO	3,730,000	1,485,000	228,000	406,000	<b>5,849,000</b>
Open CSU/TL	1,582,000	5,280,000	64,000	2,155,000	<b>9,082,000</b>
Open Standard Stipulations	0	2,223,000	0	744,000	<b>2,967,000</b>
<b>Total</b>	<b>5,508,000</b>	<b>9,316,000</b>	<b>292,000</b>	<b>3,651,000</b>	<b>18,768,000</b>

<b>Approximate % of Habitat Management Area by Fluid Minerals (Oil a&amp; Gas) Decision<sup>4</sup> within Habitat in MZ I</b>					
<b>Fluid Minerals (Oil and Gas)</b>	<b>No Action &amp; Management Alignment</b>				
	<b>PHMA</b>	<b>GHMA</b>	<b>RHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	3%	4%	0%	9%	<b>5%</b>
Open NSO	68%	16%	78%	11%	<b>31%</b>
Open CSU/TL	29%	57%	22%	59%	<b>48%</b>
Open Standard Stipulations	0%	24%	0%	20%	<b>16%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

No Action & Management Alignment -  
PHMA - Fluid Mineral Leasing (Oil & Gas)No Action & Management Alignment -  
GHMA - Fluid Mineral Leasing (Oil & Gas)No Action & Management Alignment -  
RHMA - Fluid Mineral Leasing (Oil & Gas)No Action & Management Alignment - Non-  
HMA - Fluid Mineral Leasing (Oil & Gas)**Figure 8 – Fluid Minerals (Oil & Gas) Decisions within MZ I**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. <sup>4</sup>Data not available for a portion of MT. Calculations reflect only the portions of the MZ where data was available. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

## VIII. Rights-of-Ways

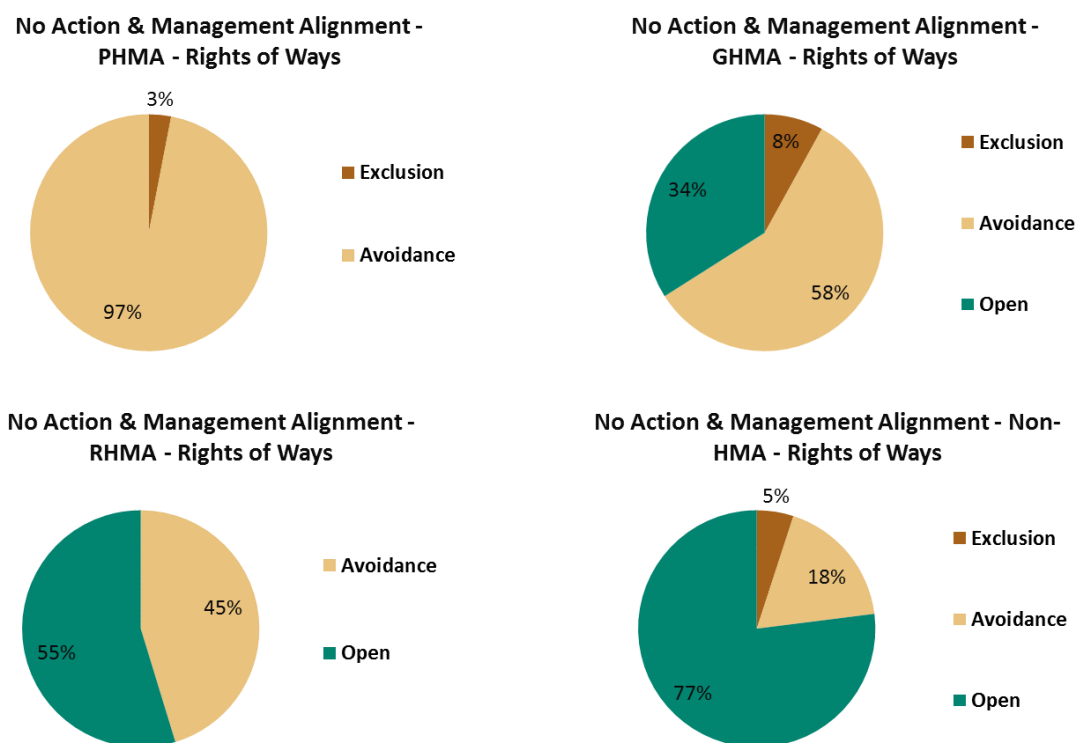
**Table 10 – Rights-of-Ways Decisions within MZ I**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

<b>Approximate Acres of Rights-of-Ways Decisions in MZ I by Habitat Management Area Type</b>					
<b>Right-of-Ways</b>	<b>No Action &amp; Management Alignment</b>				
	<b>PHMA</b>	<b>GHMA</b>	<b>RHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Exclusion	110,000	240,000	0	86,000	<b>436,000</b>
Avoidance	3,163,000	1,819,000	72,000	282,478	<b>5,336,478</b>
Open	5,000	1,067,000	87,000	1,206,000	<b>2,364,000</b>
<b>Total</b>	<b>3,278,000</b>	<b>3,126,000</b>	<b>159,000</b>	<b>1,574,478</b>	<b>8,136,478</b>

<b>Approximate % of Habitat Management Area by Rights-of-Ways Decision within Habitat in MZ I</b>					
<b>Right-of-Ways</b>	<b>No Action &amp; Management Alignment</b>				
	<b>PHMA</b>	<b>GHMA</b>	<b>RHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Exclusion	3%	8%	0%	5%	<b>5%</b>
Avoidance	97%	58%	45%	18%	<b>66%</b>
Open	0%	34%	55%	77%	<b>29%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

**Figure 9 – Rights-of-Ways Decisions within MZ I**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.



## IX. Salable Minerals Materials

**Table 11 – Salable Minerals Decisions within MZ I**

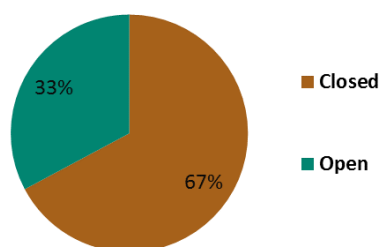
Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

Approximate Acres of Salable Minerals Materials Decisions in MZ I by Habitat Management Area Type					
Salable Minerals	No Action & Management Alignment				
	PHMA	GHMA	RHMA	Non-HMA	Total
Closed	3,870,000	402,000	9,000	424,000	4,705,000
Open	1,882,000	8,787,000	267,000	2,990,000	13,926,000
<b>Total</b>	<b>5,752,000</b>	<b>9,189,000</b>	<b>276,000</b>	<b>3,414,000</b>	<b>18,631,000</b>

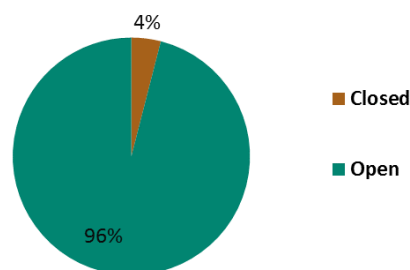
  

Approximate % of Habitat Management Area by Salable Minerals Materials Decision within Habitat in MZ I					
Salable Minerals	No Action & Management Alignment				
	PHMA	GHMA	RHMA	Non-HMA	Total
Closed	67%	4%	3%	12%	25%
Open	33%	96%	97%	88%	75%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

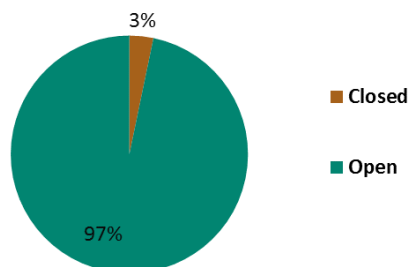
No Action & Management Alignment -  
PHMA - Salable Minerals Materials



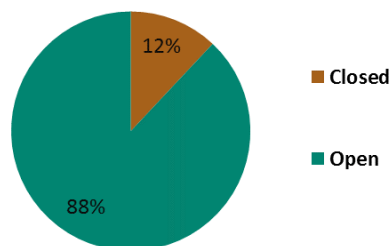
No Action & Management Alignment -  
GHMA - Salable Minerals Materials



No Action & Management Alignment -  
RHMA - Salable Minerals Materials



No Action & Management Alignment -  
Non-HMA - Salable Minerals Materials



**Figure 10 – Salable Minerals Materials Decisions within MZ I**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

**X. Solar Energy****Table 12 – Solar Energy Decisions within MZ I**

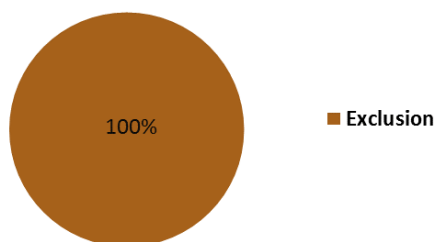
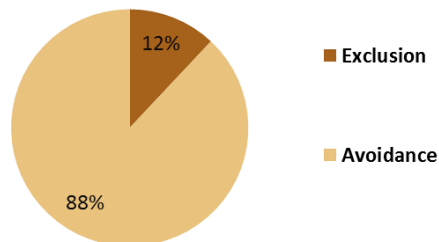
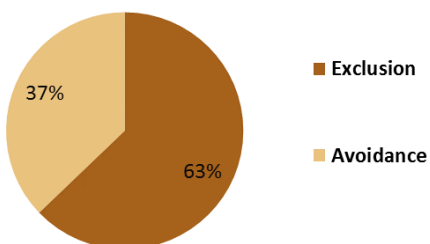
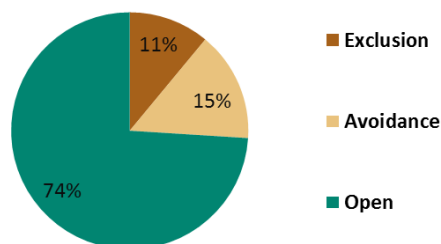
Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding.

<sup>5</sup> Data not available for Wyoming. Calculations reflect only the portions of the MZ where data was available. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

<b>Approximate Acres of Solar Energy Decisions<sup>5</sup> in MZ I by Habitat Management Area Type</b>					
<b>Solar Energy</b>	<b>No Action &amp; Management Alignment</b>				
	<b>PHMA</b>	<b>GHMA</b>	<b>RHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Exclusion	2,709,000	249,000	93,000	239,000	<b>3,290,000</b>
Avoidance	0	1,844,000	55,000	172,000	<b>2,071,000</b>
Open	0	0	0	1,144,000	<b>1,145,000</b>
<b>Total</b>	<b>2,709,000</b>	<b>2,093,000</b>	<b>148,000</b>	<b>1,555,000</b>	<b>6,506,000</b>

<b>Approximate % of Habitat Management Area by Solar Energy Decision<sup>5</sup> within Habitat in MZ I</b>					
<b>Solar Energy</b>	<b>No Action &amp; Management Alignment</b>				
	<b>PHMA</b>	<b>GHMA</b>	<b>RHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Exclusion	100%	12%	63%	11%	<b>51%</b>
Avoidance	0%	88%	37%	15%	<b>32%</b>
Open	0%	0%	0%	74%	<b>18%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

No Action & Management Alignment -  
PHMA - Solar EnergyNo Action & Management Alignment -  
GHMA - Solar EnergyNo Action & Management Alignment -  
RHMA - Solar EnergyNo Action & Management Alignment - Non-  
HMA - Solar Energy**Figure 11 - Solar Energy Decisions within MZ I**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding.

<sup>5</sup> Data not available for Wyoming. Calculations reflect only the portions of the MZ where data was available. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

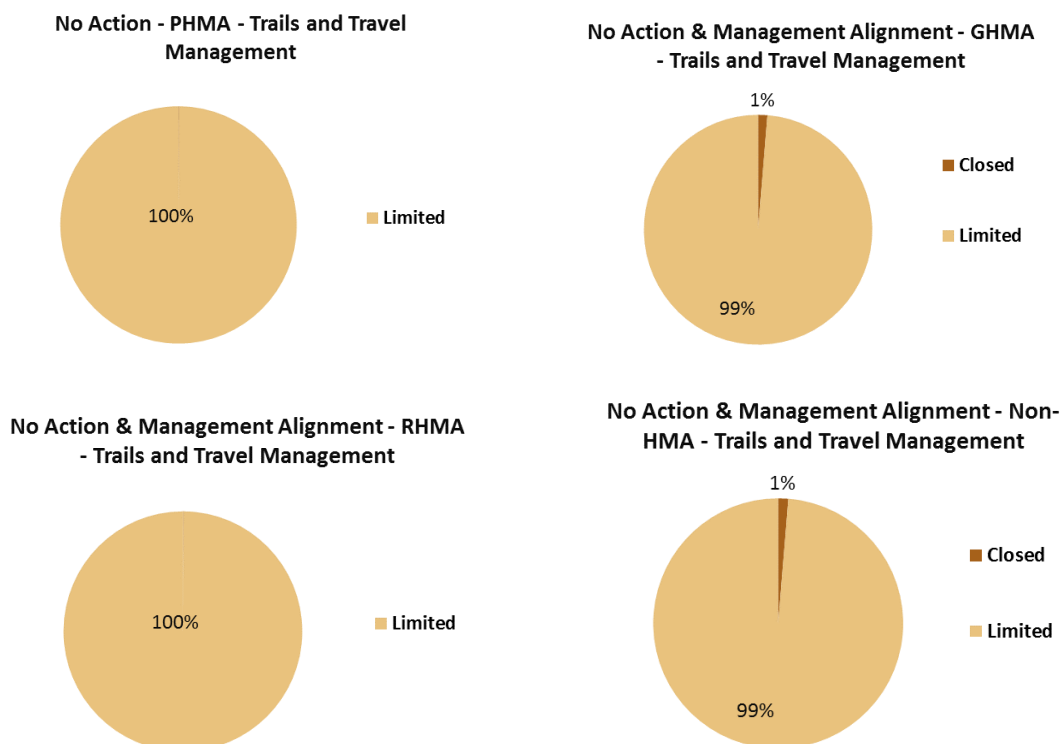
**XI. Trails and Travel Management****Table 13 – Trails and Travel Management Decisions within MZ I**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

<b>Approximate Acres of Trails and Travel Management Decisions in MZ I by Habitat Management Area Type</b>					
<b>Trails and Travel Management</b>	<b>No Action &amp; Management Alignment</b>				
	<b>PHMA</b>	<b>GHMA</b>	<b>RHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	2,000	39,000	0	11,000	<b>52,000</b>
Limited	3,306,000	3,125,000	159,000	1,655,000	<b>8,245,000</b>
Open	0	0	0	0	<b>0</b>
<b>Total</b>	<b>3,308,000</b>	<b>3,164,000</b>	<b>159,000</b>	<b>1,666,000</b>	<b>8,297,000</b>

<b>Approximate % of Habitat Management Area by Trails and Travel Management Decision within Habitat in MZ I</b>					
<b>Trails and Travel Management</b>	<b>No Action &amp; Management Alignment</b>				
	<b>PHMA</b>	<b>GHMA</b>	<b>RHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	0%	1%	0%	1%	<b>1%</b>
Limited	100%	99%	100%	99%	<b>99%</b>
Open	0%	0%	0%	0%	<b>0%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>



**Figure I2 – Trails and Travel Management Decisions within MZ I**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

## XII. Wind Energy

**Table 14 – Wind Energy Decisions within MZ I**

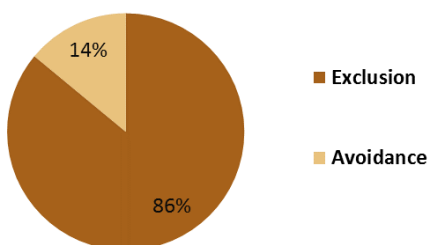
Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

Approximate Acres of Wind Energy Decisions in MZ I by Habitat Management Area Type					
Wind Energy	No Action & Management Alignment				
	PHMA	GHMA	RHMA	Non-HMA	Total
Exclusion	2,966,000	384,000	93,000	419,000	3,862,000
Avoidance	493,000	2,090,000	55,000	594,000	3,232,000
Open	0	513,000	0	655,000	1,168,000
<b>Total</b>	<b>3,459,000</b>	<b>2,987,000</b>	<b>148,000</b>	<b>1,668,000</b>	<b>8,262,000</b>

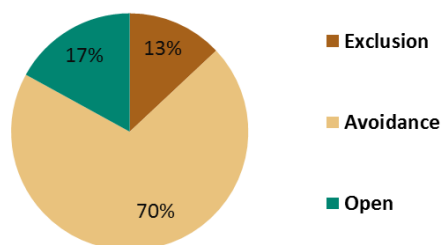
  

Approximate % of Habitat Management Area by Wind Energy Decision within Habitat in MZ I					
Wind Energy	No Action & Management Alignment				
	PHMA	GHMA	RHMA	Non-HMA	Total
Exclusion	86%	13%	63%	25%	47%
Avoidance	14%	70%	37%	36%	39%
Open	0%	17%	0%	39%	14%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

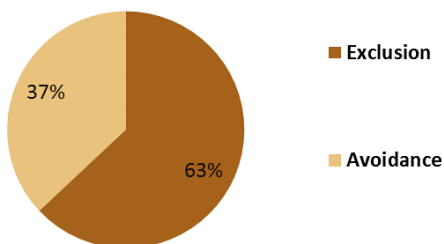
No Action & Management Alignment -  
PHMA - Wind Energy



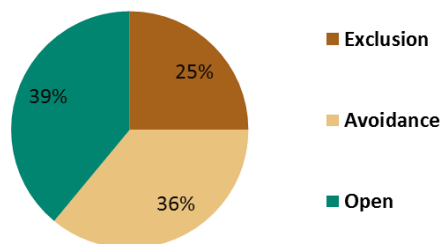
No Action & Management Alignment -  
GHMA - Wind Energy



No Action & Management Alignment -  
RHMA - Wind Energy



No Action & Management Alignment - Non-  
HMA - Wind Energy



**Figure 13 – Wind Energy Decisions within MZ I**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

### S-2.2.2 Management Zones II/VII – WY, CO, UT, ID

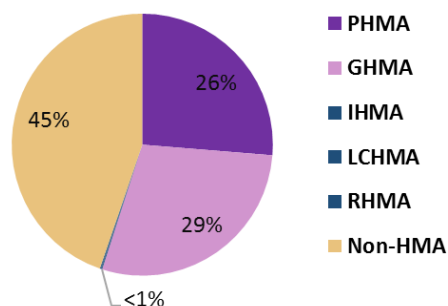
#### I. Habitat Management

**Table 15 – Habitat Management Areas within MZs II/VII**

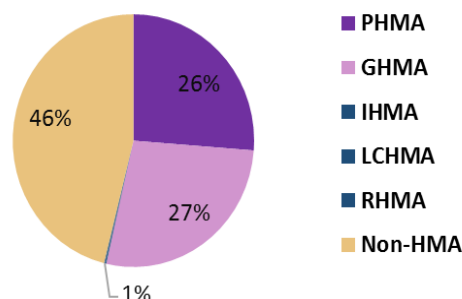
Acres and percentages reflect all lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

Approximate Acres of HMA in MZs II/VII					
No Action					
PHMA	IHMA	GHMA	LCHMA <sup>2</sup>	RHMA	Non-HMA
16,699,000	69,000	18,220,000	295,000	8,000	28,409,000
Management Alignment					
PHMA	IHMA	GHMA	LCHMA	RHMA	Non-HMA
16,664,000	69,000	17,394,000	295,000	8,000	29,270,000
Approximate Percent of MZs II/VII that is HMA					
No Action					
PHMA	IHMA	GHMA	LCHMA	RHMA	Non-HMA
26%	<1%	29%	<1%	<1%	45%
Management Alignment					
PHMA	IHMA	GHMA	LCHMA	RHMA	Non-HMA
26%	<1%	27%	<1%	<1%	46%

No Action - MZ II & VII - Habitat within the Planning Area



Management Alignment - MZ II & VII - Habitat within the Planning Area



**Figure 14 – Habitat Management Areas within MZs II/VII**

Percentages reflect all lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

<sup>2</sup> Linkage Connectivity Habitat Management Area (LCHMA)

## II. Geothermal Energy

**Table 16 – Geothermal Energy Decisions within MZ II/VII**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding.

<sup>6</sup> Data not available for portions of MT and WY. Calculations reflect only the portions of the MZ where data was available. All figures and tables are intended for Management Zone summary purposes only.

They represent data available at the time of consolidation and may be revised as Plans are finalized.

Consult each individual EIS for final/official acreages.

<b>Approximate Acres of Geothermal Energy Decisions<sup>6</sup> in MZ II/VII by Habitat Management Area Type</b>							
<b>Geothermal Energy</b>	<b>No Action</b>						
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>LCHMA</b>	<b>RHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	781,000	1,000	285,000	1,000	NA	2,342,000	<b>3,409,000</b>
Open NSO	2,271,000	29,000	342,000	54,000	NA	1,917,000	<b>4,615,000</b>
Open CSU/TL	983,000	0	1,316,000	81,000	NA	3,511,000	<b>5,891,000</b>
Open Standard Stipulations	0	0	245,000	8,000	NA	2,407,000	<b>2,660,000</b>
<b>Total</b>	<b>4,037,000</b>	<b>29,000</b>	<b>2,187,000</b>	<b>144,000</b>	<b>NA</b>	<b>10,179,000</b>	<b>16,575,000</b>

<b>Geothermal Energy</b>	<b>Management Alignment</b>						
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>LCHMA</b>	<b>RHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	565,000	1,000	260,000	1,000	NA	2,355,000	<b>3,181,000</b>
Open NSO	2,451,000	29,000	348,000	54,000	NA	1,923,000	<b>4,804,000</b>
Open CSU/TL	983,000	0	1,109,000	81,000	NA	3,719,000	<b>5,891,000</b>
Open Standard Stipulations	0	0	140,000	8,000	NA	2,512,000	<b>2,660,000</b>
<b>Total</b>	<b>4,000,000</b>	<b>29,000</b>	<b>1,857,000</b>	<b>144,000</b>	<b>NA</b>	<b>10,509,000</b>	<b>16,538,000</b>

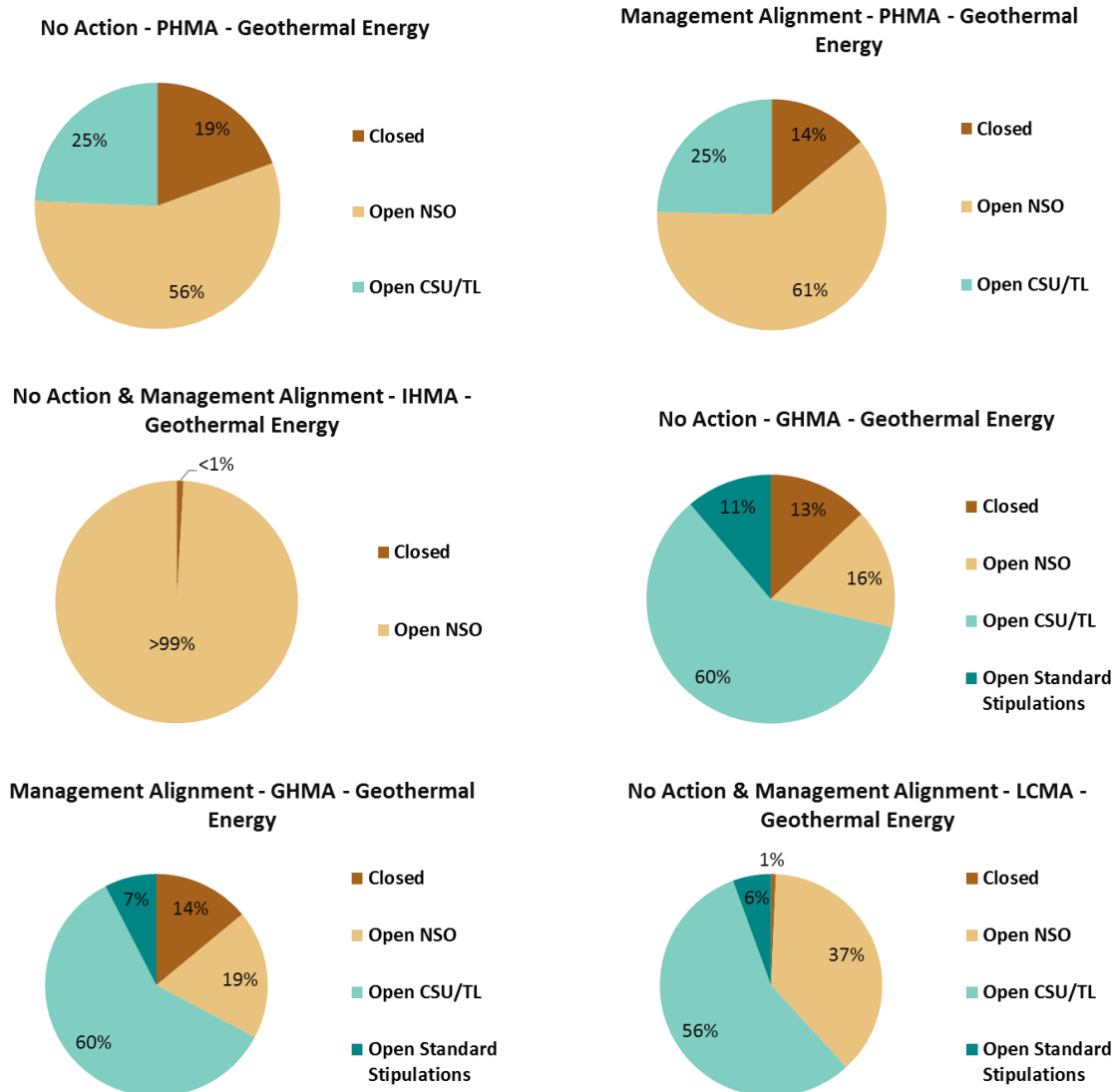
  

<b>Approximate % of Habitat Management Area by Geothermal Energy Decision<sup>6</sup> in MZ II/VII</b>							
<b>Geothermal Energy</b>	<b>No Action</b>						
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>LCHMA</b>	<b>RHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	19%	<1%	13%	1%	NA	23%	<b>21%</b>
Open NSO	56%	100%	16%	38%	NA	19%	<b>28%</b>
Open CSU/TL	24%	0%	60%	56%	NA	34%	<b>36%</b>
Open Standard Stipulations	0%	0%	11%	6%	NA	24%	<b>16%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>NA</b>	<b>100%</b>	<b>100%</b>

<b>Geothermal Energy</b>	<b>Management Alignment</b>						
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>LCHMA</b>	<b>RHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	14%	<1%	14%	1%	NA	22%	<b>19%</b>
Open NSO	61%	100%	19%	38%	NA	18%	<b>29%</b>
Open CSU/TL	25%	0%	60%	56%	NA	35%	<b>36%</b>
Open Standard Stipulations	0%	0%	8%	6%	NA	24%	<b>16%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>NA</b>	<b>100%</b>	<b>100%</b>

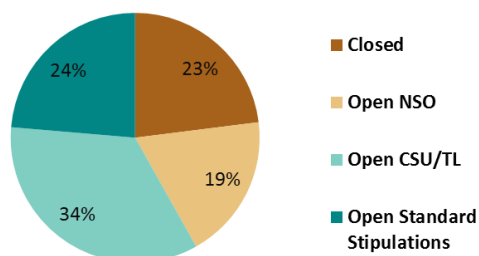




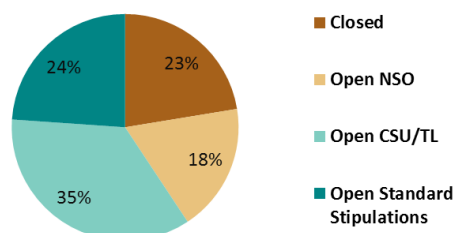
**Figure 15 – Geothermal Energy Decisions within MZ II/VII**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. <sup>6</sup> Data not available for portions of MT and WY. Calculations reflect only the portions of the MZ where data was available. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

No Action - Non-HMA - Geothermal Energy



Management Alignment - Non-HMA - Geothermal Energy

**Figure 15 (cont'd) - Geothermal Energy Decisions within MZ II/VII**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. <sup>6</sup> Data not available for portions of MT and WY. Calculations reflect only the portions of the MZ where data was available. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

### III. Land Tenure

**Table 17 – Land Tenure Decisions within MZ II/VII**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

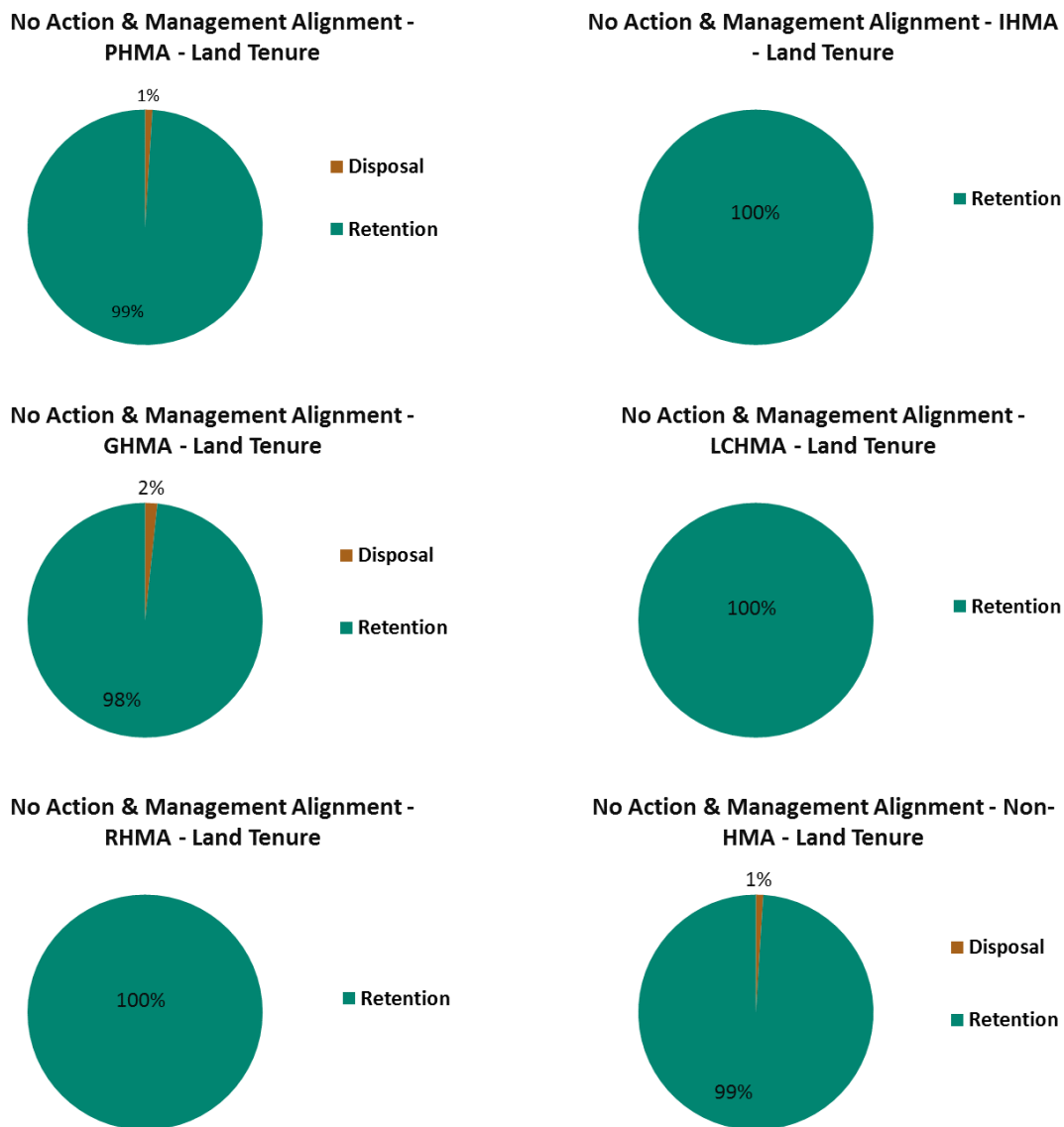
Approximate Acres of Land Tenure Decisions in MZ II/VII by Habitat Management Area Type							
Land Tenure	No Action						Total
	PHMA	IHMA	GHMA	LCHMA	RHMA	Non-HMA	
Disposal	57,000	0	154,000	0	0	115,000	325,000
Retention	8,894,000	18,000	8,972,000	82,000	7,000	11,837,000	29,811,000
<b>Total</b>	<b>8,951,000</b>	<b>18,000</b>	<b>9,126,000</b>	<b>82,000</b>	<b>7,000</b>	<b>11,952,000</b>	<b>30,136,000</b>

Land Tenure	Management Alignment						Total
	PHMA	IHMA	GHMA	LCHMA	RHMA	Non-HMA	
Disposal	57,000	0	154,000	0	0	115,000	325,000
Retention	8,894,000	18,000	8,685,000	82,000	7,000	12,125,000	29,811,000
<b>Total</b>	<b>8,951,000</b>	<b>18,000</b>	<b>8,839,000</b>	<b>82,000</b>	<b>7,000</b>	<b>12,239,000</b>	<b>30,136,000</b>

Approximate % of Habitat Management Area by Land Tenure Decision in MZ II/VII							
Land Tenure	No Action & Management Alignment						Total
	PHMA	IHMA	GHMA	LCHMA	RHMA	Non-HMA	
Disposal	1%	0%	2%	0%	0%	1%	1%
Retention	99%	100%	98%	100%	100%	99%	99%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>



**Figure 16 – Land Tenure Decisions within MZ II/VII**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

#### IV. Livestock Grazing

**Table 18 – Livestock Grazing Decisions within MZ II/VII**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

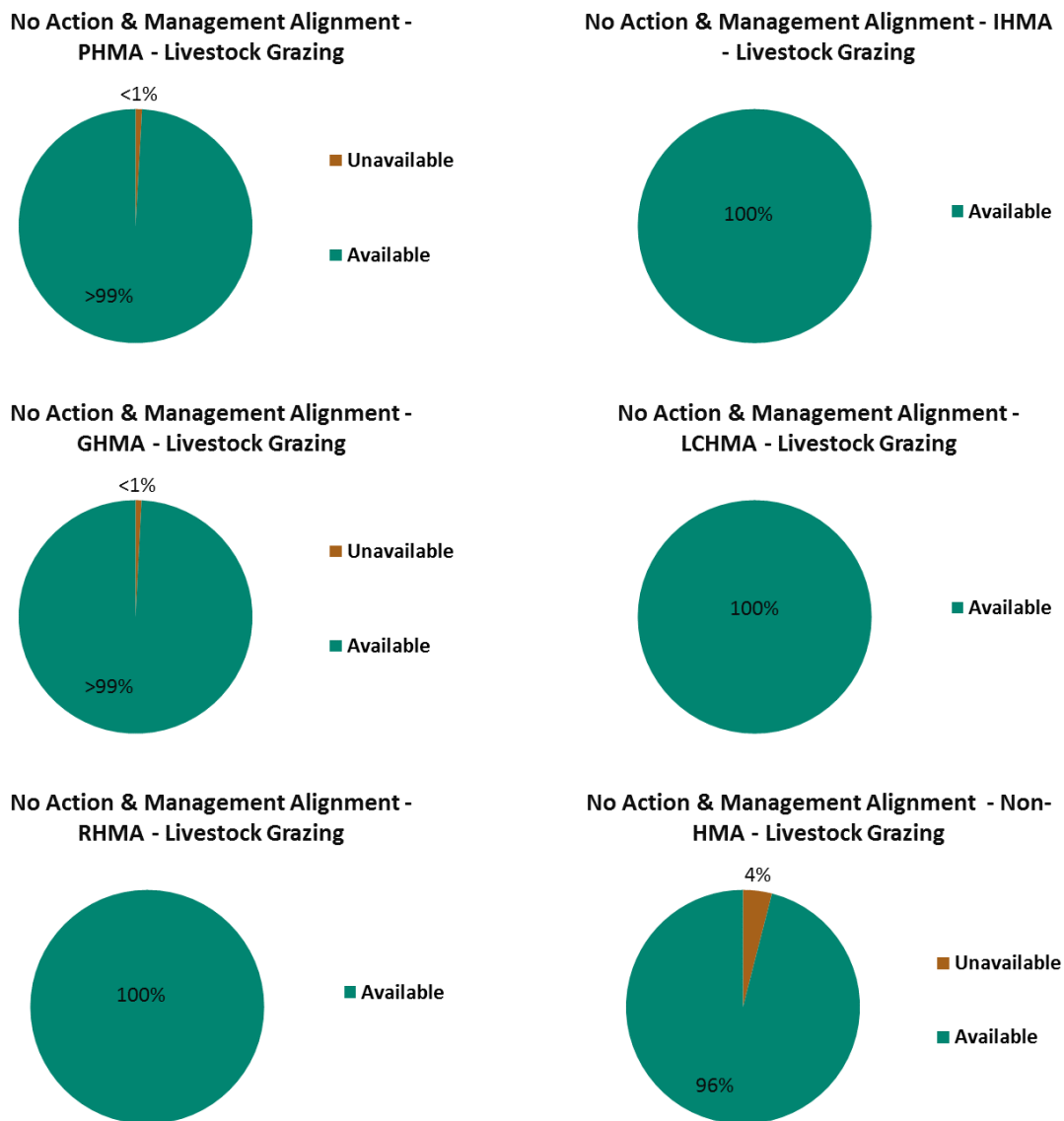
<b>Approximate Acres of Livestock Grazing Decisions in MZ II/VII by Habitat Management Area Type</b>							
<b>Livestock Grazing</b>	<b>No Action</b>						
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>LCHMA</b>	<b>RHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Unavailable	40,000	0	40,000	0	0	316,000	<b>395,000</b>
Available	8,872,000	18,000	9,069,000	81,000	7,000	8,193,000	<b>26,241,000</b>
<b>Total</b>	<b>8,912,000</b>	<b>18,000</b>	<b>9,109,000</b>	<b>81,000</b>	<b>7,000</b>	<b>8,508,000</b>	<b>26,635,000</b>

<b>Livestock Grazing</b>	<b>Management Alignment</b>						
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>LCHMA</b>	<b>RHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Unavailable	40,000	0	40,000	0	0	316,000	<b>395,000</b>
Available	8,872,000	18,000	8,784,000	81,000	7,000	8,479,000	<b>26,241,000</b>
<b>Total</b>	<b>8,912,000</b>	<b>18,000</b>	<b>8,824,000</b>	<b>81,000</b>	<b>7,000</b>	<b>8,794,000</b>	<b>26,635,000</b>

<b>Approximate % of Habitat Management Area by Livestock Grazing Decision in MZ II/VII</b>							
<b>Livestock Grazing</b>	<b>No Action &amp; Management Alignment</b>						
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>LCHMA</b>	<b>RHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Unavailable	<1%	0%	<1%	0%	0%	4%	<b>1%</b>
Available	100%	100%	100%	100%	100%	96%	<b>99%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>



**Figure 17 – Livestock Grazing Decisions within MZ II/VII**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

**V. Locatable Minerals****Table 19 – Locatable Minerals Decisions within MZ II/VII**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

<b>Approximate Acres of Locatable Minerals Decisions in MZ II/VII by Habitat Management Area Type</b>							
<b>Locatable Minerals</b>	<b>No Action</b>						<b>Total</b>
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>LCHMA</b>	<b>RHMA</b>	<b>Non-HMA</b>	
Existing Withdrawals	1,863,000	7,000	2,394,000	1,000	0	4,804,000	<b>9,068,000</b>
Recommended Withdrawals	998,000	0	320,000	0	0	302,000	<b>1,620,000</b>
Open	8,323,000	27,000	8,529,000	137,000	7,000	10,250,000	<b>27,273,000</b>
<b>Total</b>	<b>11,185,000</b>	<b>33,000</b>	<b>11,243,000</b>	<b>137,000</b>	<b>7,000</b>	<b>15,357,000</b>	<b>37,962,000</b>

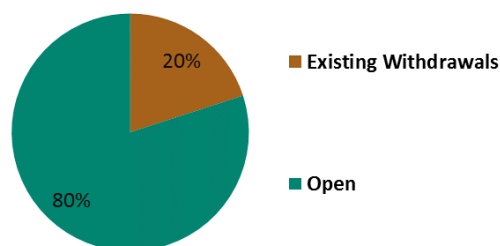
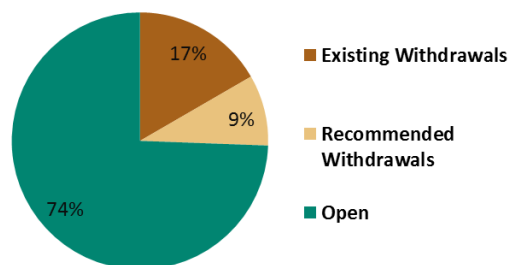
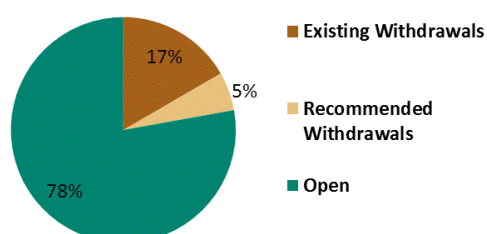
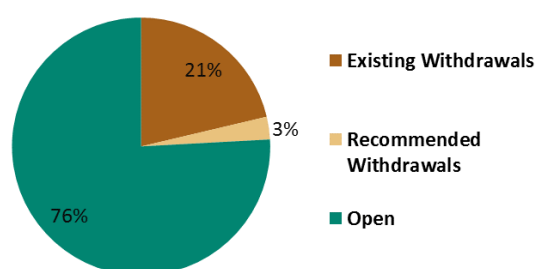
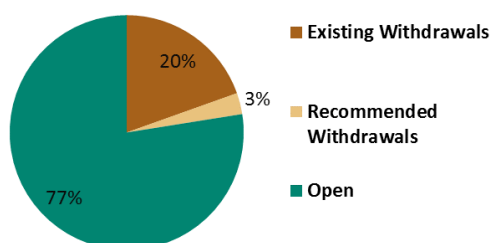
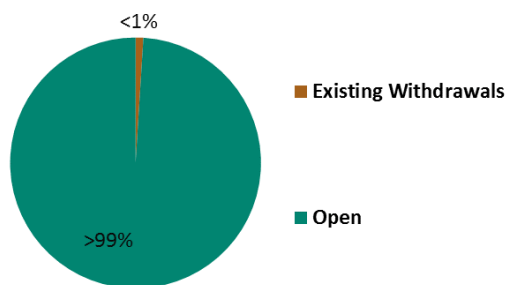
<b>Locatable Minerals</b>	<b>Management Alignment</b>						<b>Total</b>
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>LCHMA</b>	<b>RHMA</b>	<b>Non-HMA</b>	
Existing Withdrawals	1,863,000	7,000	2,125,000	1,000	0	5,072,000	<b>9,068,000</b>
Recommended Withdrawals	618,000	0	318,000	0	0	302,000	<b>1,238,000</b>
Open	8,703,000	27,000	8,420,000	137,000	7,000	10,361,000	<b>27,656,000</b>
<b>Total</b>	<b>11,185,000</b>	<b>33,000</b>	<b>10,863,000</b>	<b>137,000</b>	<b>7,000</b>	<b>15,736,000</b>	<b>37,962,000</b>

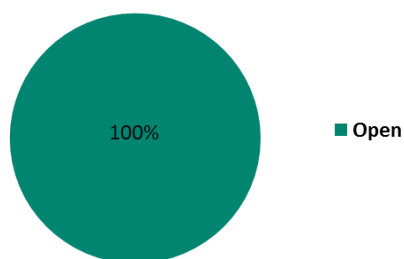
<b>Approximate % of Habitat Management Area by Locatable Minerals Decision in MZ II/VII</b>							
<b>Locatable Minerals</b>	<b>No Action</b>						<b>Total</b>
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>LCHMA</b>	<b>RHMA</b>	<b>Non-HMA</b>	
Existing Withdrawals	17%	20%	21%	<1%	0%	31%	<b>24%</b>
Recommended Withdrawals	9%	0%	3%	0%	0%	2%	<b>4%</b>
Open	74%	80%	76%	100%	100%	67%	<b>72%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

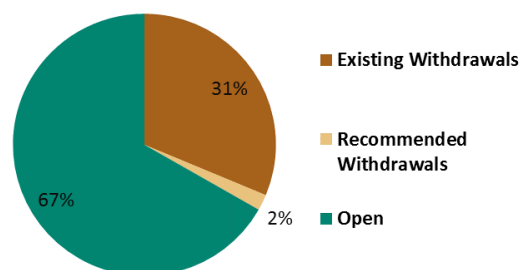
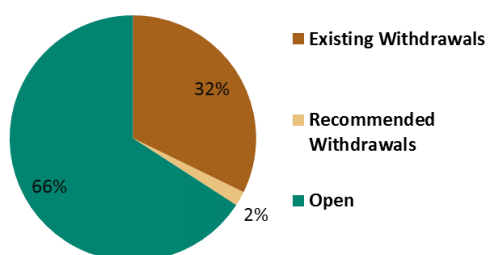
<b>Locatable Minerals</b>	<b>Management Alignment</b>						<b>Total</b>
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>LCHMA</b>	<b>RHMA</b>	<b>Non-HMA</b>	
Existing Withdrawals	17%	20%	20%	<1%	0%	32%	<b>24%</b>
Recommended Withdrawals	6%	0%	3%	0%	0%	2%	<b>3%</b>
Open	78%	80%	78%	100%	100%	66%	<b>73%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

**No Action & Management Alignment - IHMA  
- Locatable Minerals****No Action - PHMA - Locatable Minerals****Management Alignment - PHMA - Locatable  
Minerals****No Action - GHMA - Locatable Minerals****Management Alignment - GHMA - Locatable  
Minerals****No Action & Management Alignment -  
LCHMA - Locatable Minerals****Figure I8 – Locatable Minerals Decisions within MZ II/VII**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

No Action & Management Alignment -  
RHMA - Locatable Minerals

No Action - Non-HMA - Locatable Minerals

Management Alignment - Non-HMA -  
Locatable Minerals**Figure 18 (cont'd) – Locatable Minerals Decisions within MZ II/VII**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.



## VI. Non-Energy Leasable Minerals

**Table 20 – Non-Energy Leasable Minerals Decisions within MZ II/VII**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding.  
<sup>7</sup>Data not available for portions of MT and WY. Calculations reflect only the portions of the MZ where data was available. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

Approximate Acres of Non-Energy Leasable Minerals Decisions <sup>7</sup> in MZ II/VII by Habitat Management Area Type							
Non-Energy Leasable Minerals	No Action						
	PHMA	IHMA	GHMA	LCHMA	RHMA	Non-HMA	Total
Closed	3,617,000	7,000	1,256,000	1,000	NA	4,591,000	9,471,000
Open	6,052,000	23,000	7,330,000	137,000	NA	10,221,000	23,763,000
<b>Total</b>	<b>9,669,000</b>	<b>30,000</b>	<b>8,586,000</b>	<b>137,000</b>	<b>NA</b>	<b>14,812,000</b>	<b>33,233,000</b>

Non-Energy Leasable Minerals	Management Alignment						
	PHMA	IHMA	GHMA	LCHMA	RHMA	Non-HMA	Total
Closed	3,581,000	7,000	1,244,000	1,000	NA	4,603,000	9,436,000
Open	6,052,000	23,000	6,972,000	137,000	NA	10,614,000	23,799,000
<b>Total</b>	<b>9,633,000</b>	<b>30,000</b>	<b>8,216,000</b>	<b>137,000</b>	<b>NA</b>	<b>15,217,000</b>	<b>33,233,000</b>

Approximate % of Habitat Management Area by Non-Energy Leasable Minerals Decision <sup>7</sup> in MZ II/VII							
Non-Energy Leasable Minerals	No Action						
	PHMA	IHMA	GHMA	LCHMA	RHMA	Non-HMA	Total
Closed	37%	23%	15%	<1%	NA	31%	28%
Open	63%	77%	85%	100%	NA	69%	72%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>NA</b>	<b>100%</b>	<b>100%</b>

Non-Energy Leasable Minerals	Management Alignment						
	PHMA	IHMA	GHMA	LCHMA	RHMA	Non-HMA	Total
Closed	37%	23%	15%	<1%	NA	30%	28%
Open	63%	77%	85%	100%	NA	70%	72%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>NA</b>	<b>100%</b>	<b>100%</b>



**Figure 19 - Non-Energy Leasable Minerals Decisions within MZ II/VII**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. <sup>7</sup>Data not available for portions of MT and WY. Calculations reflect only the portions of the MZ where data was available. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

**VII. Fluid Minerals (Oil & Gas)****Table 21 – Fluid Minerals (Oil & Gas) Decisions within MZ II/VII**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages

<b>Approximate Acres of Fluid Minerals (Oil &amp; Gas) Decisions in MZ II/VII by Habitat Management Area Type</b>							
<b>Fluid Minerals (Oil &amp; Gas)</b>	<b>No Action</b>						
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>LCHMA</b>	<b>RHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	1,294,000	7,000	1,178,000	1,000	0	4,773,000	<b>7,252,000</b>
Open NSO	4,399,000	23,000	1,425,000	54,000	5,000	2,628,000	<b>8,535,000</b>
Open CSU/TL	5,689,000	0	6,517,000	81,000	2,000	4,748,000	<b>17,036,000</b>
Open Standard Stipulations	0	0	2,297,000	8,000	0	2,895,000	<b>5,200,000</b>
<b>Total</b>	<b>11,382,000</b>	<b>29,000</b>	<b>11,416,000</b>	<b>144,000</b>	<b>8,000</b>	<b>15,046,000</b>	<b>38,024,000</b>

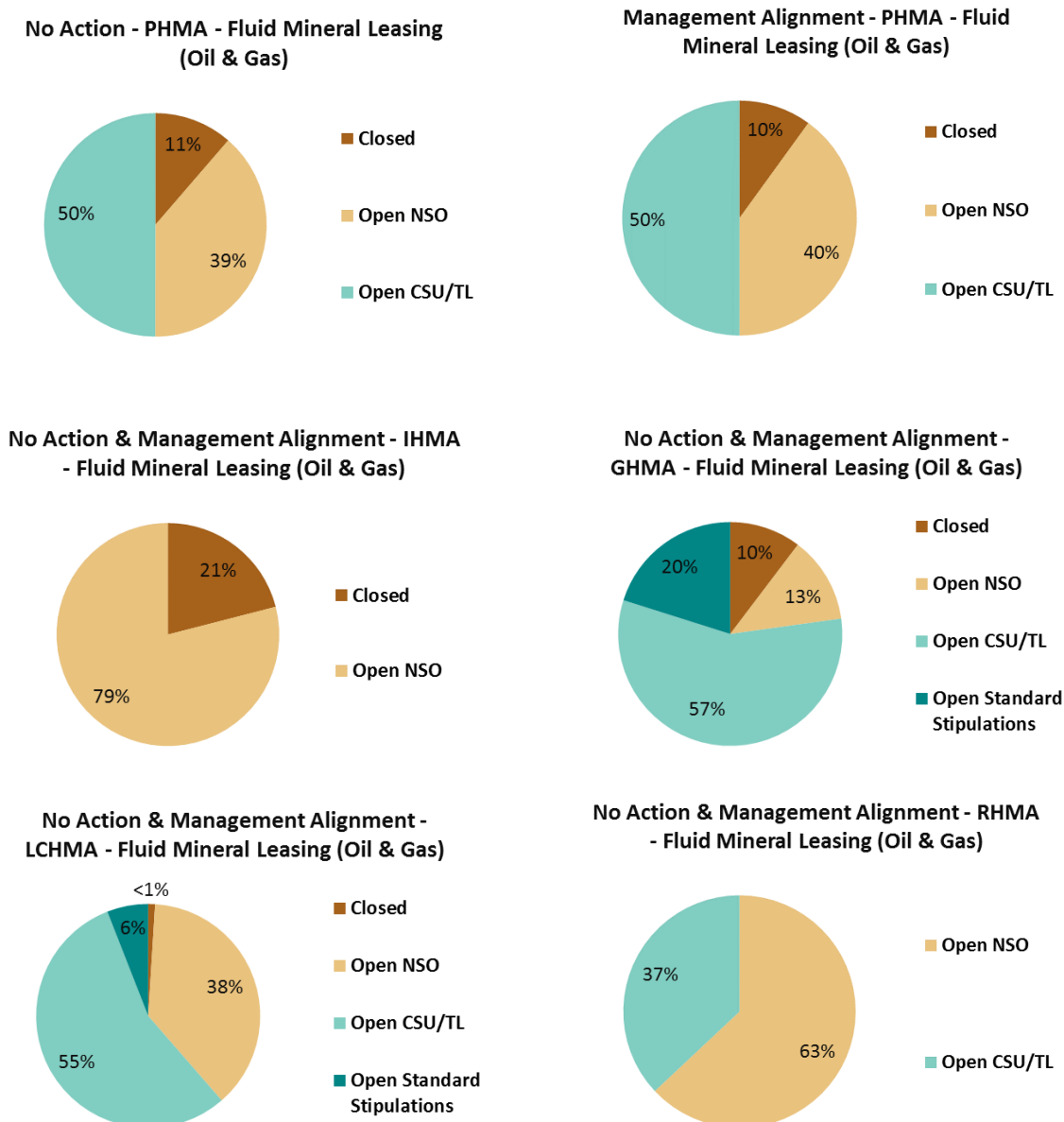
<b>Fluid Minerals (Oil &amp; Gas)</b>	<b>Management Alignment</b>						
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>LCHMA</b>	<b>RHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	1,078,000	7,000	1,153,000	1,000	0	4,787,000	<b>7,024,000</b>
Open NSO	4,578,000	23,000	1,430,000	54,000	5,000	2,634,000	<b>8,725,000</b>
Open CSU/TL	5,689,000	0	6,310,000	81,000	2,000	4,956,000	<b>17,036,000</b>
Open Standard Stipulations	0	0	2,193,000	8,000	0	3,000,000	<b>5,200,000</b>
<b>Total</b>	<b>11,345,000</b>	<b>29,000</b>	<b>11,086,000</b>	<b>144,000</b>	<b>8,000</b>	<b>15,376,000</b>	<b>37,988,000</b>

<b>Approximate % of Habitat Management Area by Fluid Minerals (Oil &amp; Gas) Decision in MZ II/VII</b>							
<b>Fluid Minerals (Oil &amp; Gas)</b>	<b>No Action</b>						
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>LCHMA</b>	<b>RHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	11%	21%	10%	<1%	0%	32%	<b>19%</b>
Open NSO	39%	79%	12%	38%	63%	17%	<b>22%</b>
Open CSU/TL	50%	0%	57%	56%	37%	32%	<b>45%</b>
Open Standard Stipulations	0%	0%	20%	6%	0%	19%	<b>14%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

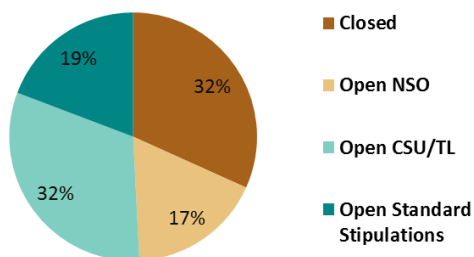
  

<b>Fluid Minerals (Oil &amp; Gas)</b>	<b>Management Alignment</b>						
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>LCHMA</b>	<b>RHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	10%	21%	10%	<1%	0%	31%	<b>18%</b>
Open NSO	40%	79%	13%	38%	63%	17%	<b>23%</b>
Open CSU/TL	50%	0%	57%	56%	37%	32%	<b>45%</b>
Open Standard Stipulations	0%	0%	20%	6%	0%	20%	<b>14%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

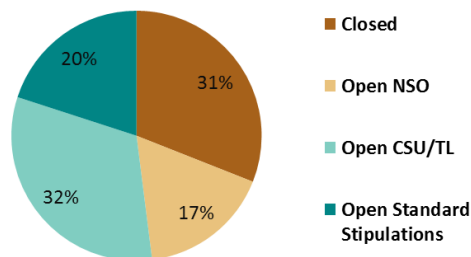


**Figure 20 – Fluid Minerals (Oil & Gas) Decisions within MZ II/VII**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

No Action - Non-HMA - Fluid Mineral Leasing  
(Oil & Gas)

Management Alignment - Non-HMA - Fluid Mineral Leasing (Oil &amp; Gas)

**Figure 20 (cont'd) – Fluid Minerals (Oil & Gas) Decisions within MZ II/VII**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

### VIII. Rights-of-Ways

**Table 22 – Rights-of-Ways Decisions within MZ II/VII**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

Approximate Acres of Rights-of-Ways Decisions in MZ II/VII by Habitat Management Area Type							
Rights-of-Ways	No Action						
	PHMA	IHMA	GHMA	LCHMA	RHMA	Non-HMA	Total
Exclusion	561,000	0	654,000	0	0	1,255,000	2,471,000
Avoidance	8,119,000	18,000	3,132,000	16,000	7,000	1,172,000	12,465,000
Open	71,000	16,000	5,256,000	51,000	0	5,067,000	10,460,000
<b>Total</b>	<b>8,752,000</b>	<b>34,000</b>	<b>9,041,000</b>	<b>67,000</b>	<b>7,000</b>	<b>7,494,000</b>	<b>25,395,000</b>

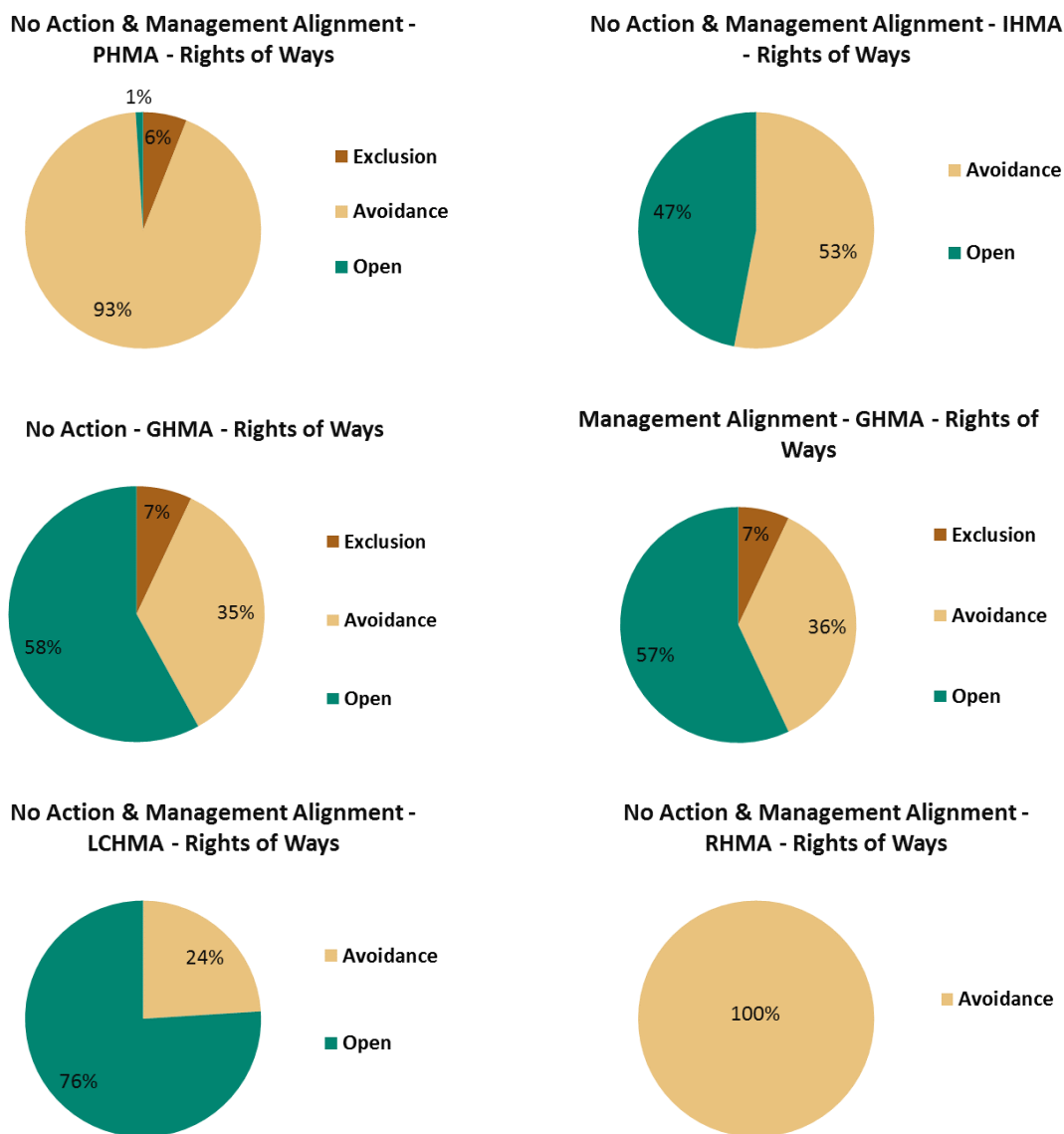
Rights-of-Ways	Management Alignment						
	PHMA	IHMA	GHMA	LCHMA	RHMA	Non-HMA	Total
Exclusion	561,000	0	651,000	0	0	1,258,000	2,471,000
Avoidance	8,119,000	18,000	3,132,000	16,000	7,000	1,172,000	12,465,000
Open	71,000	16,000	4,971,000	51,000	0	5,351,000	10,460,000
<b>Total</b>	<b>8,752,000</b>	<b>34,000</b>	<b>8,754,000</b>	<b>67,000</b>	<b>7,000</b>	<b>7,781,000</b>	<b>25,395,000</b>

Approximate % of Habitat Management Area by Rights-of-Ways Decision in MZ II/VII							
Rights-of-Ways	No Action						
	PHMA	IHMA	GHMA	LCHMA	RHMA	Non-HMA	Total
Exclusion	6%	0%	7%	0%	0%	17%	10%
Avoidance	93%	53%	35%	24%	100%	16%	49%
Open	1%	47%	58%	76%	0%	68%	41%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

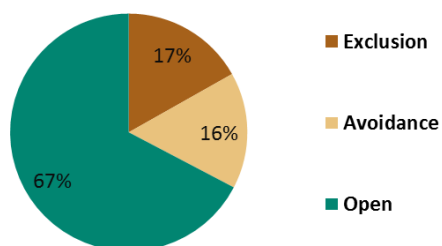
Rights-of-Ways	Management Alignment						
	PHMA	IHMA	GHMA	LCHMA	RHMA	Non-HMA	Total
Exclusion	6%	0%	7%	0%	0%	16%	10%
Avoidance	93%	53%	36%	24%	100%	15%	49%
Open	1%	47%	57%	76%	0%	69%	41%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>



**Figure 2I – Rights-of-Ways Decisions within MZ II/VII**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

**No Action & Management Alignment - Non-HMA - Rights of Ways**



**Figure 21 (cont'd) – Rights-of-Ways Decisions within MZ II/VII**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

## IX. Salable Minerals Materials

**Table 23 – Salable Minerals Materials Decisions within MZ II/VII**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

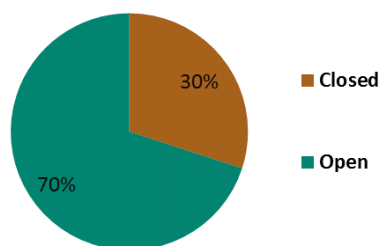
Approximate Acres of Salable Minerals Materials Decisions in MZ II/VII by Habitat Management Area Type							
Salable Minerals Materials	No Action						
	PHMA	IHMA	GHMA	LCHMA	RHMA	Non-HMA	Total
Closed	3,241,000	0	1,401,000	27,000	0	3,592,000	8,263,000
Open	7,671,000	28,000	9,745,000	115,000	7,000	9,675,000	27,239,000
<b>Total</b>	<b>10,912,000</b>	<b>28,000</b>	<b>11,145,000</b>	<b>142,000</b>	<b>7,000</b>	<b>13,268,000</b>	<b>35,502,000</b>

Salable Minerals Materials	Management Alignment						
	PHMA	IHMA	GHMA	LCHMA	RHMA	Non-HMA	Total
Closed	3,241,000	0	1,399,000	27,000	0	3,594,000	8,263,000
Open	7,671,000	28,000	9,413,000	115,000	7,000	10,006,000	27,239,000
<b>Total</b>	<b>10,912,000</b>	<b>28,000</b>	<b>10,813,000</b>	<b>142,000</b>	<b>7,000</b>	<b>13,600,000</b>	<b>35,502,000</b>

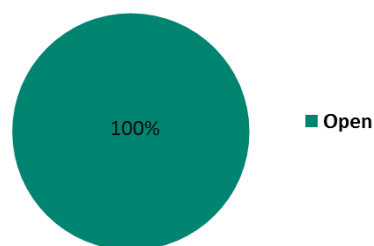
Approximate % of Habitat Management Area by Salable Minerals Materials Decision in MZ II/VII							
Salable Minerals Materials	No Action						
	PHMA	IHMA	GHMA	LCHMA	RHMA	Non-HMA	Total
Closed	30%	0%	13%	19%	0%	26%	23%
Open	70%	100%	87%	81%	100%	74%	77%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Salable Minerals Materials	Management Alignment						
	PHMA	IHMA	GHMA	LCHMA	RHMA	Non-HMA	Total
Closed	30%	0%	13%	19%	0%	27%	23%
Open	70%	100%	87%	81%	100%	73%	77%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

No Action & Management Alignment -  
PHMA - Salable Minerals Materials



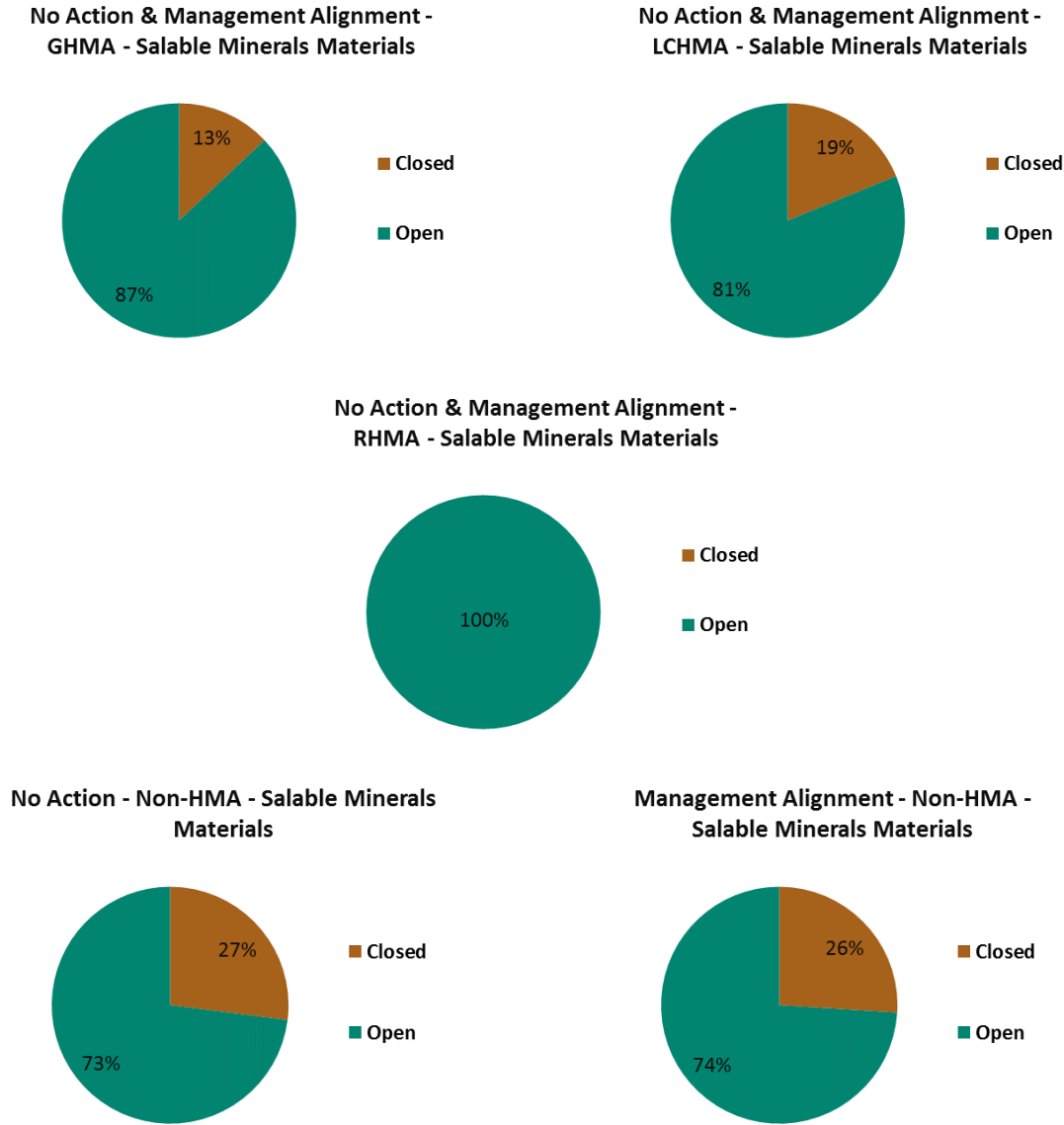
No Action & Management Alignment - IHMA  
- Salable Minerals Materials



**Figure 22 – Salable Minerals Materials Decisions within MZ II/VII**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.





**Figure 22 (cont'd) – Salable Minerals Materials Decisions within MZ II/VII**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

## X. Solar Energy

**Table 24 – Solar Energy Decisions within MZ II/VII**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. <sup>8</sup> Data not available for WY. Calculations reflect only the portions of the MZ where data was available. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

Approximate Acres of Solar Energy Decisions <sup>8</sup> in MZ II/VII by Habitat Management Area Type							
Solar Energy	No Action						Total
	PHMA	IHMA	GHMA	LCHMA	RHMA	Non-HMA	
Exclusion	1,494,000	0	317,000	0	7,000	4,352,000	6,169,000
Avoidance	2,000	18,000	764,000	83,000	0	742,000	1,610,000
Open	0	0	1,000	0	0	2,170,000	2,171,000
<b>Total</b>	<b>1,496,000</b>	<b>18,000</b>	<b>1,082,000</b>	<b>83,000</b>	<b>7,000</b>	<b>7,265,000</b>	<b>9,950,000</b>

Solar Energy	Management Alignment						Total
	PHMA	IHMA	GHMA	LCHMA	RHMA	Non-HMA	
Exclusion	1,494,000	0	30,000	0	7,000	4,639,000	6,169,000
Avoidance	2,000	18,000	764,000	83,000	0	742,000	1,610,000
Open	0	0	1,000	0	0	2,170,000	2,171,000
<b>Total</b>	<b>1,496,000</b>	<b>18,000</b>	<b>795,000</b>	<b>83,000</b>	<b>7,000</b>	<b>7,551,000</b>	<b>9,950,000</b>

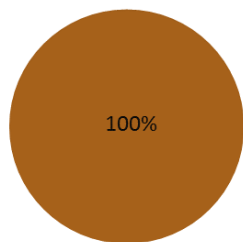
  

Approximate % of Habitat Management Area by Solar Energy Decision <sup>8</sup> in MZ II/VII							
Solar Energy	No Action						Total
	PHMA	IHMA	GHMA	LCHMA	RHMA	Non-HMA	
Exclusion	100%	0%	29%	0%	100%	60%	62%
Avoidance	0%	100%	71%	100%	0%	10%	16%
Open	0%	0%	<1%	0%	0%	30%	22%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

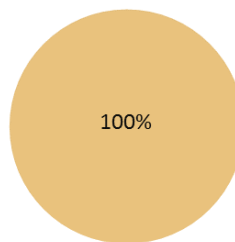
Solar Energy	Management Alignment						Total
	PHMA	IHMA	GHMA	LCHMA	RHMA	Non-HMA	
Exclusion	100%	0%	4%	0%	100%	61%	62%
Avoidance	0%	100%	96%	100%	0%	10%	16%
Open	0%	0%	<1%	0%	0%	29%	22%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

No Action & Management Alignment -  
PHMA - Solar Energy



■ Exclusion

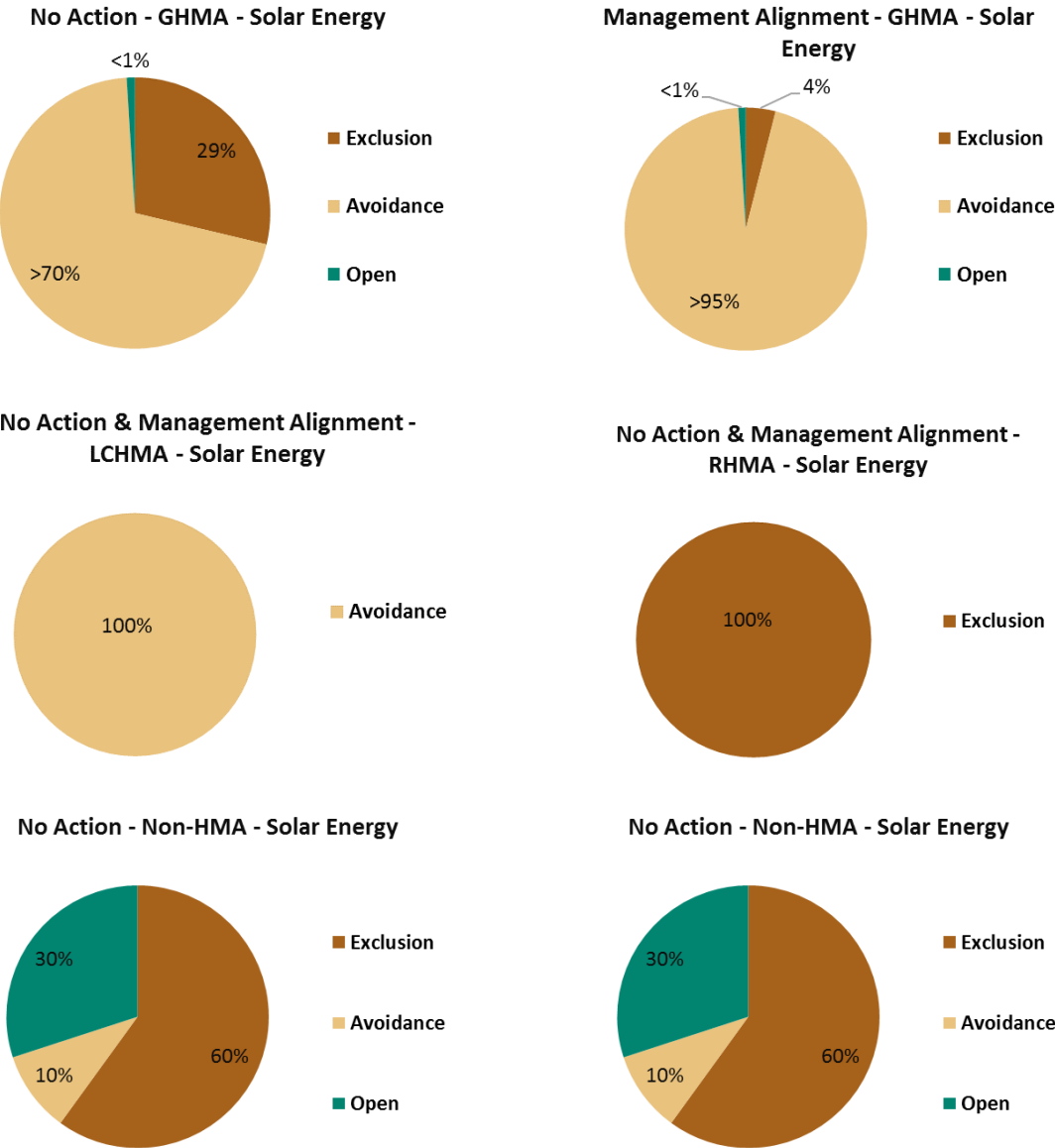
No Action & Management Alignment -  
IHMA - Solar Energy



■ Avoidance

**Figure 23 – Solar Energy Decisions within MZ II/VII**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. <sup>8</sup> Data not available for WY. Calculations reflect only the portions of the MZ where data was available. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.



**Figure 23 (cont'd) – Solar Energy Decisions within MZ II/VII**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. <sup>8</sup> Data not available for WY. Calculations reflect only the portions of the MZ where data was available. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

**XI. Trails and Travel Management****Table 25 – Trails and Travel Management Decisions within MZ II/VII**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

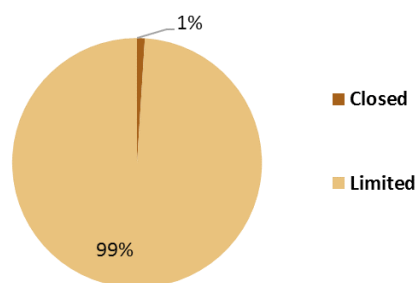
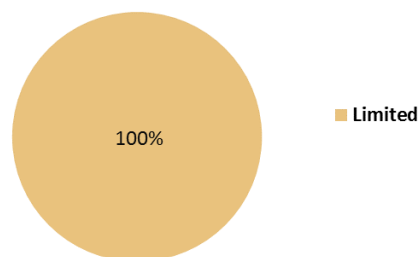
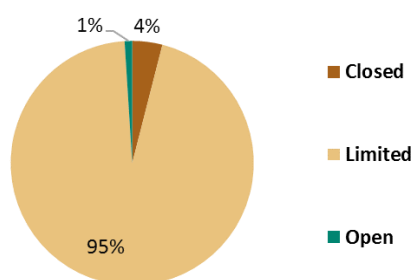
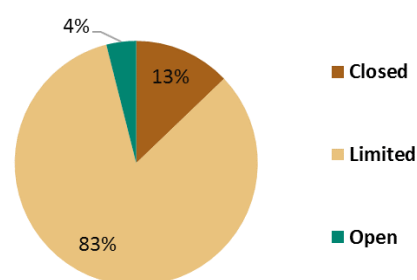
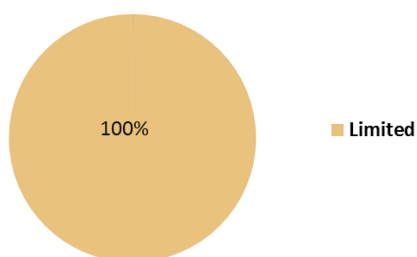
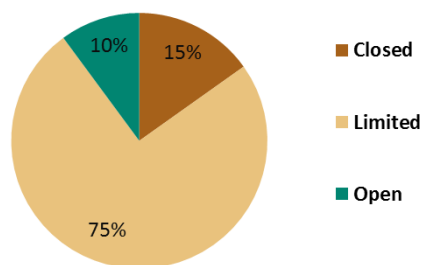
<b>Approximate Acres of Trails and Travel Management Decisions in MZ II/VII by Habitat Management Area Type</b>							
<b>Trails and Travel Management</b>	<b>No Action</b>						
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>LCHMA</b>	<b>RHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	103,000	0	369,000	11,000	0	1,304,000	<b>1,787,000</b>
Limited	8,840,000	18,000	8,696,000	69,000	7,000	6,337,000	<b>23,966,000</b>
Open	4,000	0	54,000	3,000	0	891,000	<b>953,000</b>
<b>Total</b>	<b>8,947,000</b>	<b>18,000</b>	<b>9,121,000</b>	<b>82,000</b>	<b>7,000</b>	<b>8,531,000</b>	<b>26,706,000</b>

<b>Trails and Travel Management</b>	<b>Management Alignment</b>						
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>LCHMA</b>	<b>RHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	103,000	0	366,000	11,000	0	1,307,000	<b>1,787,000</b>
Limited	8,840,000	18,000	8,413,000	69,000	7,000	6,620,000	<b>23,966,000</b>
Open	4,000	0	54,000	3,000	0	891,000	<b>953,000</b>
<b>Total</b>	<b>8,947,000</b>	<b>18,000</b>	<b>8,834,000</b>	<b>82,000</b>	<b>7,000</b>	<b>8,819,000</b>	<b>26,706,000</b>

<b>Approximate % of Habitat Management Area by Trails and Travel Management Decision in MZ II/VII</b>							
<b>Trails and Travel Management</b>	<b>No Action &amp; Management Alignment</b>						
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>LCHMA</b>	<b>RHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	1%	0%	4%	13%	0%	15%	<b>7%</b>
Limited	99%	100%	95%	84%	100%	74%	<b>90%</b>
Open	0%	0%	1%	4%	0%	10%	<b>4%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

No Action & Management Alignment - PHMA -  
Trails and Travel ManagementNo Action & Management Alignment - IHMA -  
Trails and Travel ManagementNo Action & Management Alignment - GHMA  
- Trails and Travel ManagementNo Action & Management Alignment -  
LCHMA - Trails and Travel ManagementNo Action & Management Alignment - RHMA  
- Trails and Travel ManagementNo Action & Management Alignment - Non-  
HMA - Trails and Travel Management**Figure 24 – Trails and Travel Management Decisions within MZ II/VII**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

## XII. Wind Energy

**Table 26 – Wind Energy Decisions within MZ II/VII**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

Approximate Acres of Wind Energy Decisions in MZ II/VII by Habitat Management Area Type							
Wind Energy	No Action						Total
	PHMA	IHMA	GHMA	LCHMA	RHMA	Non-HMA	
Exclusion	3,660,000	0	1,041,000	0	7,000	1,327,000	6,035,000
Avoidance	5,294,000	18,000	2,805,000	83,000	0	1,103,000	9,304,000
Open	0	0	5,272,000	0	0	5,045,000	10,317,000
<b>Total</b>	<b>8,953,000</b>	<b>18,000</b>	<b>9,119,000</b>	<b>83,000</b>	<b>7,000</b>	<b>7,476,000</b>	<b>25,656,000</b>

Wind Energy	Management Alignment						Total
	PHMA	IHMA	GHMA	LCHMA	RHMA	Non-HMA	
Exclusion	3,660,000	0	1,038,000	0	7,000	1,330,000	6,035,000
Avoidance	5,294,000	18,000	2,805,000	83,000	0	1,103,000	9,304,000
Open	0	0	4,988,000	0	0	5,329,000	10,317,000
<b>Total</b>	<b>8,953,000</b>	<b>18,000</b>	<b>8,831,000</b>	<b>83,000</b>	<b>7,000</b>	<b>7,763,000</b>	<b>25,656,000</b>

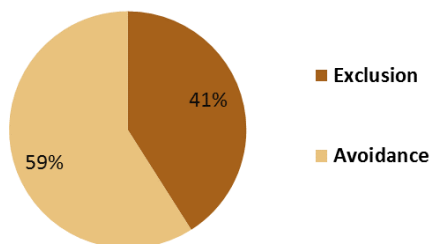
  

Approximate % of Habitat Management Area by Wind Energy Decision in MZ II/VII							
Wind Energy	No Action						Total
	PHMA	IHMA	GHMA	LCHMA	RHMA	Non-HMA	
Exclusion	41%	0%	11%	0%	100%	18%	24%
Avoidance	59%	100%	31%	100%	0%	15%	36%
Open	0%	0%	58%	0%	0%	67%	40%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

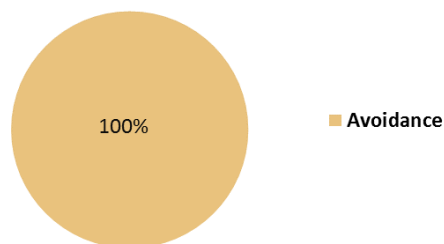
  

Wind Energy	Management Alignment						Total
	PHMA	IHMA	GHMA	LCHMA	RHMA	Non-HMA	
Exclusion	41%	0%	12%	0%	100%	17%	24%
Avoidance	59%	100%	32%	100%	0%	14%	36%
Open	0%	0%	56%	0%	0%	69%	40%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

No Action & Management Alignment -  
PHMA - Wind Energy

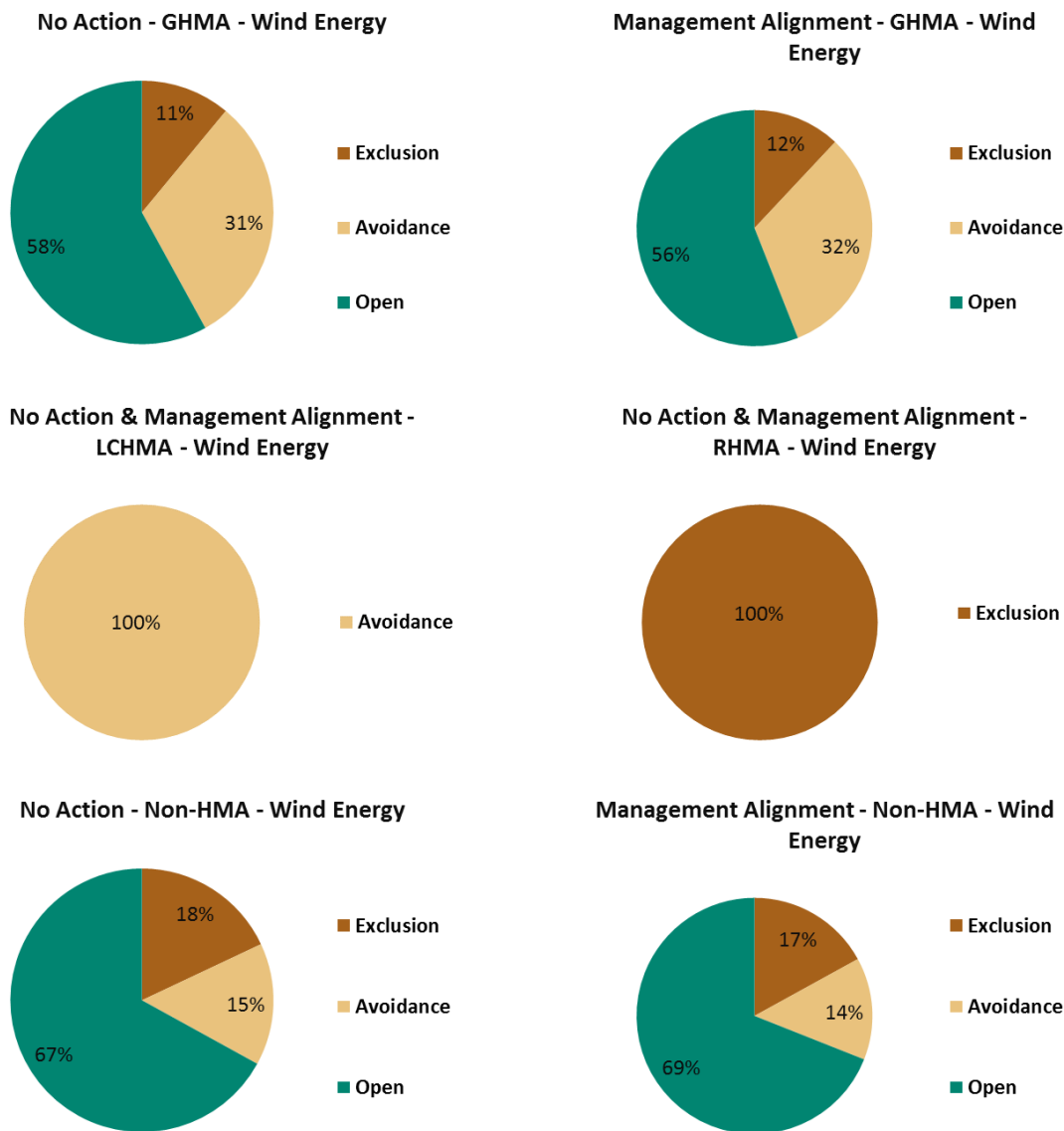


No Action & Management Alignment - IHMA  
- Wind Energy



**Figure 25 – Wind Energy Decisions within MZ II/VII**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.



**Figure 25 (cont'd) – Wind Energy Decisions within MZ II/VII**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

### S-2.2.3 Management Zone III – UT, NV

#### I. Habitat Management

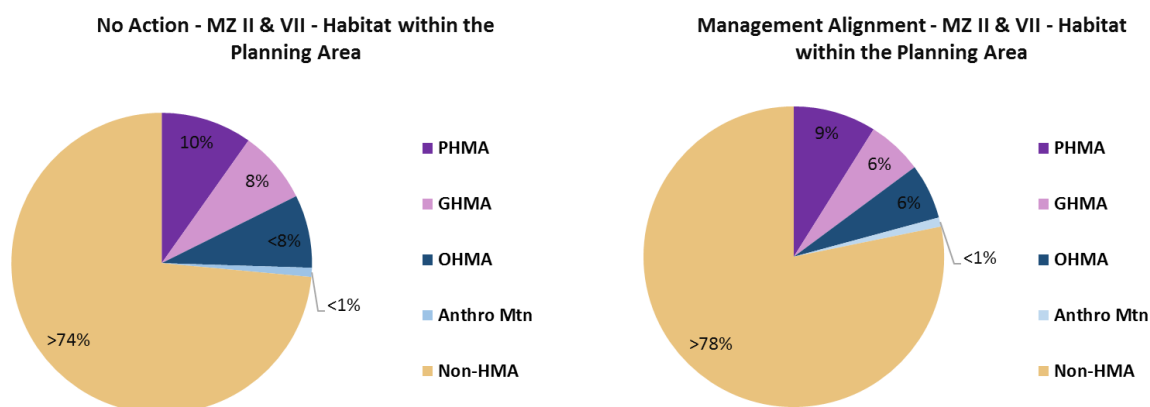
**Table 27 – Habitat Management Areas within MZ III**

Acres and percentages reflect all lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

Approximate Acres of HMA in MZ III									
No Action					Management Alignment				
PHMA	GHMA	OHMA	Anthro Mtn	Non-HMA	PHMA	GHMA	OHMA	Anthro Mtn	Non-HMA
7,093,000	5,953,000	5,651,000	42,000	54,928,000	6,974,000	4,474,000	4,253,000	42,000	57,925,000

Approximate Percent of MZ III that is HMA									
No Action					Management Alignment				
PHMA	GHMA	OHMA	Anthro Mtn	Non-HMA	PHMA	GHMA	OHMA	Anthro Mtn	Non-HMA
10%	8%	8%	<1%	75%	9%	6%	6%	<1%	79%



**Figure 26 – Habitat Management Areas within MZ III**

Percentages reflect all lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.



## II. Geothermal Energy

**Table 28 – Geothermal Energy Decisions within MZ III**

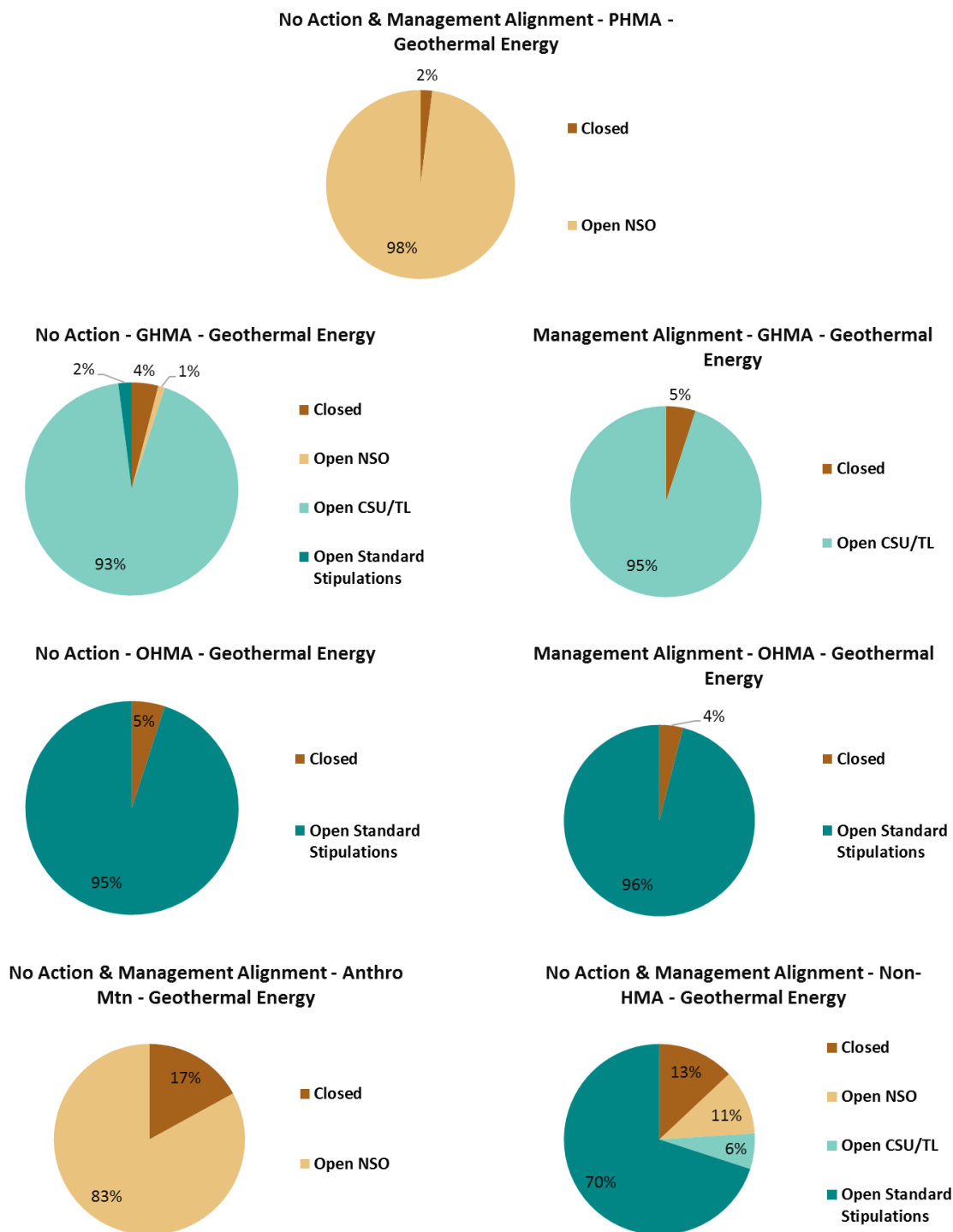
Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

Approximate Acres of Geothermal Energy Decisions in MZ III by Habitat Management Area Type						
Geothermal Energy	No Action					
	PHMA	GHMA	OHMA	Anthro Mtn	Non-HMA	Total
Closed	126,000	165,000	230,000	7,000	4,948,000	5,476,000
Open NSO	5,358,000	23,000	0	35,000	3,939,000	9,354,000
Open CSU/TL	0	3,628,000	0	0	2,135,000	5,763,000
Open Standard Stipulations	0	86,000	4,042,000	0	26,065,000	30,193,000
<b>Total</b>	<b>5,484,000</b>	<b>3,902,000</b>	<b>4,272,000</b>	<b>42,000</b>	<b>37,087,000</b>	<b>50,787,000</b>

Geothermal Energy	Management Alignment					
	PHMA	GHMA	OHMA	Anthro Mtn	Non-HMA	Total
Closed	124,000	176,000	159,000	7,000	4,990,000	5,457,000
Open NSO	5,483,000	0	0	35,000	3,961,000	9,479,000
Open CSU/TL	0	3,565,000	0	0	2,191,000	5,756,000
Open Standard Stipulations	0	0	3,534,000	0	26,554,000	30,088,000
<b>Total</b>	<b>5,607,000</b>	<b>3,741,000</b>	<b>3,693,000</b>	<b>42,000</b>	<b>37,696,000</b>	<b>50,780,000</b>

Approximate % of Habitat Management Area by Geothermal Energy Decision in MZ III						
Geothermal Energy	No Action					
	PHMA	GHMA	OHMA	Anthro Mtn	Non-HMA	Total
Closed	2%	4%	5%	17%	13%	11%
Open NSO	98%	1%	0%	83%	11%	18%
Open CSU/TL	0%	93%	0%	0%	6%	11%
Open Standard Stipulations	0%	2%	95%	0%	70%	59%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Geothermal Energy	Management Alignment					
	PHMA	GHMA	OHMA	Anthro Mtn	Non-HMA	Total
Closed	2%	5%	4%	17%	13%	11%
Open NSO	98%	0%	0%	83%	11%	19%
Open CSU/TL	0%	95%	0%	0%	6%	11%
Open Standard Stipulations	0%	0%	96%	0%	70%	59%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>



**Figure 27 – Geothermal Energy Decisions within MZ III**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

### III. Land Tenure

**Table 29 – Land Tenure Decisions within MZ III**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

<b>Approximate Acres of Land Tenure Decisions in MZ III by Habitat Management Area Type</b>						
<b>Land Tenure</b>	<b>No Action</b>					
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Anthro Mtn</b>	<b>Non-HMA</b>	<b>Total</b>
Disposal	0	0	280,000	NA	2,178,000	<b>2,458,000</b>
Retention	4,722,000	3,875,000	3,992,000	NA	30,234,000	<b>42,824,000</b>
<b>Total</b>	<b>4,722,000</b>	<b>3,875,000</b>	<b>4,272,000</b>	<b>NA</b>	<b>32,413,000</b>	<b>45,283,000</b>

<b>Land Tenure</b>	<b>Management Alignment</b>					
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Anthro Mtn</b>	<b>Non-HMA</b>	<b>Total</b>
Disposal	3,000	62,000	304,000	NA	2,214,000	<b>2,583,000</b>
Retention	4,844,000	3,679,000	3,389,000	NA	30,782,000	<b>42,694,000</b>
<b>Total</b>	<b>4,847,000</b>	<b>3,741,000</b>	<b>3,693,000</b>	<b>NA</b>	<b>32,996,000</b>	<b>45,277,000</b>

<b>Approximate % of Habitat Management Area by Land Tenure Decision in MZ III</b>						
<b>Land Tenure</b>	<b>No Action</b>					
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Anthro Mtn</b>	<b>Non-HMA</b>	<b>Total</b>
Disposal	0%	0%	7%	NA	7%	<b>5%</b>
Retention	100%	100%	93%	NA	93%	<b>95%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>NA</b>	<b>100%</b>	<b>100%</b>

<b>Land Tenure</b>	<b>Management Alignment</b>					
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Anthro Mtn</b>	<b>Non-HMA</b>	<b>Total</b>
Disposal	0%	2%	8%	NA	7%	<b>6%</b>
Retention	100%	98%	92%	NA	93%	<b>94%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>NA</b>	<b>100%</b>	<b>100%</b>



**Figure 28 – Land Tenure Decisions within MZ III**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

#### IV. Livestock Grazing

**Table 30 – Livestock Grazing Decisions within MZ III**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

<b>Approximate Acres of Livestock Grazing Decisions in MZ III by Habitat Management Area Type</b>						
<b>Livestock Grazing</b>	<b>No Action</b>					
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Anthro Mtn</b>	<b>Non-HMA</b>	<b>Total</b>
Unavailable	0	0	0	NA	129,000	<b>129,000</b>
Available	4,722,000	3,868,000	4,265,000	NA	31,559,000	<b>44,415,000</b>
<b>Total</b>	<b>4,722,000</b>	<b>3,868,000</b>	<b>4,265,000</b>	<b>NA</b>	<b>31,688,000</b>	<b>44,544,000</b>

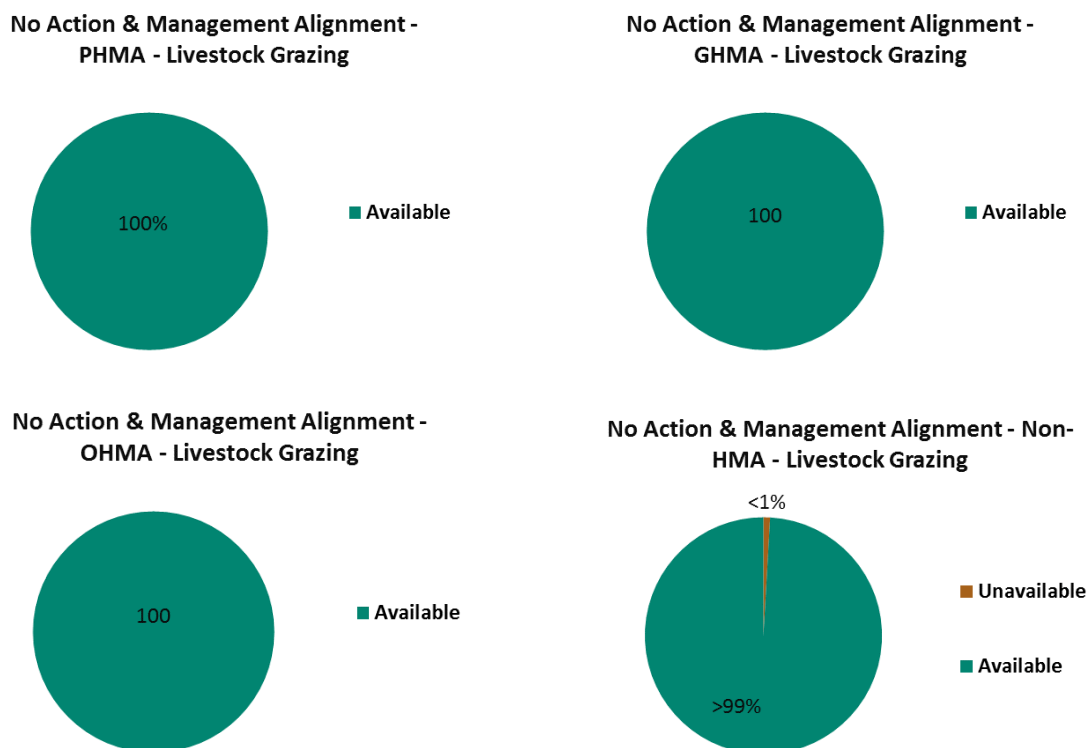
<b>Livestock Grazing</b>	<b>Management Alignment</b>					
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Anthro Mtn</b>	<b>Non-HMA</b>	<b>Total</b>
Unavailable	0	0	0	NA	129,000	<b>129,000</b>
Available	4,845,000	3,741,000	3,690,000	NA	32,135,000	<b>44,410,000</b>
<b>Total</b>	<b>4,845,000</b>	<b>3,741,000</b>	<b>3,690,000</b>	<b>NA</b>	<b>32,264,000</b>	<b>44,539,000</b>

<b>Approximate % of Habitat Management Area by Livestock Grazing Decision in MZ III</b>						
<b>Livestock Grazing</b>	<b>No Action</b>					
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Anthro Mtn</b>	<b>Non-HMA</b>	<b>Total</b>
Unavailable	0%	0%	0%	NA	<1%	<b>&lt;1%</b>
Available	100%	100%	100%	NA	100%	<b>100%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>NA</b>	<b>100%</b>	<b>100%</b>

<b>Livestock Grazing</b>	<b>Management Alignment</b>					
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Anthro Mtn</b>	<b>Non-HMA</b>	<b>Total</b>
Unavailable	0%	0%	0%	NA	<1%	<b>&lt;1%</b>
Available	100%	100%	100%	NA	100%	<b>100%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>NA</b>	<b>100%</b>	<b>100%</b>



**Figure 29 – Livestock Grazing Decisions within MZ III**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

## V. Locatable Minerals

**Table 31 – Locatable Minerals Decisions within MZ III**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

Approximate Acres of Locatable Minerals Decisions in MZ III by Habitat Management Area Type						
Locatable Minerals	No Action					
	PHMA	GHMA	OHMA	Anthro Mtn	Non-HMA	Total
Existing Withdrawals	56,000	143,000	52,000	0	3,350,000	3,602,000
Recommended Withdrawals	4,000	0	0	0	49,000	53,000
Open	5,429,000	3,788,000	4,219,000	42,000	34,853,000	48,332,000
<b>Total</b>	<b>5,489,000</b>	<b>3,931,000</b>	<b>4,272,000</b>	<b>42,000</b>	<b>38,253,000</b>	<b>51,987,000</b>

Locatable Minerals	Management Alignment					
	PHMA	GHMA	OHMA	Anthro Mtn	Non-HMA	Total
Existing Withdrawals	61,000	100,000	42,000	0	3,398,000	3,601,000
Recommended Withdrawals	4,000	0	0	0	50,000	53,000
Open	5,552,000	3,641,000	3,650,000	42,000	35,444,000	48,330,000
<b>Total</b>	<b>5,617,000</b>	<b>3,741,000</b>	<b>3,693,000</b>	<b>42,000</b>	<b>38,892,000</b>	<b>51,985,000</b>

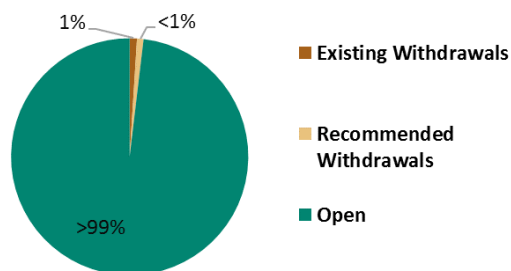
  

Approximate % of Habitat Management Area by Geothermal Energy Decision in MZ III						
Locatable Minerals	No Action					
	PHMA	GHMA	OHMA	Anthro Mtn	Non-HMA	Total
Existing Withdrawals	1%	4%	1%	0	9%	7%
Recommended Withdrawals	<1%	0%	0%	0%	<1%	<1%
Open	99%	96%	99%	100%	91%	93%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Locatable Minerals	Management Alignment					
	PHMA	GHMA	OHMA	Anthro Mtn	Non-HMA	Total
Existing Withdrawals	1%	3%	1%	0%	9%	7%
Recommended Withdrawals	<1%	0%	0%	0%	0%	<1%
Open	99%	97%	99%	100%	91%	93%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

No Action & Management Alignment -  
PHMA - Locatable Minerals



**Figure 30 – Locatable Minerals Decisions within MZ III**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.



**Figure 30 (cont'd) – Locatable Minerals Decisions within MZ III**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.



## VI. Non-Energy Leasable Minerals

**Table 32 – Non-Energy Leasable Minerals Decisions within MZ III**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

Approximate Acres of Non-Energy Leasable Minerals Decisions in MZ III by Habitat Management Area Type						
Non-Energy Leasable Minerals	No Action					
	PHMA	GHMA	OHMA	Anthro Mtn	Non-HMA	Total
Closed	5,486,000	165,000	230,000	42,000	4,948,000	10,871,000
Open	0	3,766,000	4,042,000	0	33,308,000	41,116,000
<b>Total</b>	<b>5,486,000</b>	<b>3,931,000</b>	<b>4,272,000</b>	<b>42,000</b>	<b>38,256,000</b>	<b>51,987,000</b>

Non-Energy Leasable Minerals	Management Alignment					
	PHMA	GHMA	OHMA	Anthro Mtn	Non-HMA	Total
Closed	5,611,000	176,000	159,000	42,000	4,990,000	10,978,000
Open	0	3,565,000	3,534,000	0	33,904,000	41,004,000
<b>Total</b>	<b>5,611,000</b>	<b>3,741,000</b>	<b>3,693,000</b>	<b>42,000</b>	<b>38,894,000</b>	<b>51,981,000</b>

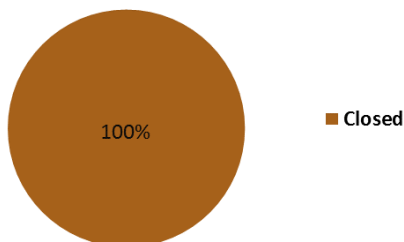
  

Approximate % of Habitat Management Area by Non-Energy Leasable Minerals Decision in MZ III						
Non-Energy Leasable Minerals	No Action					
	PHMA	GHMA	OHMA	Anthro Mtn	Non-HMA	Total
Closed	100%	4%	5%	100%	13%	21%
Open	0%	96%	95%	0%	87%	79%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

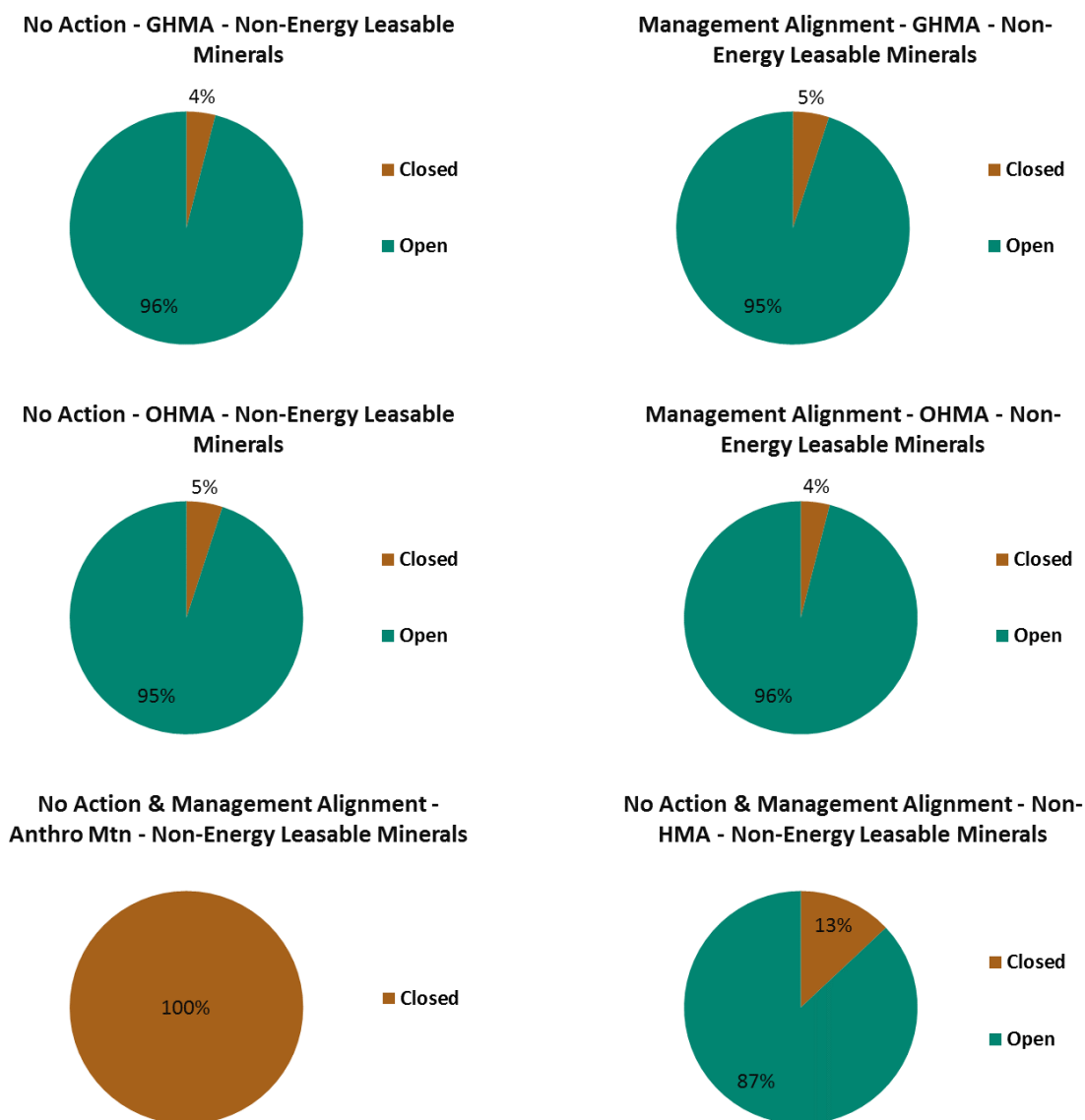
Non-Energy Leasable Minerals	Management Alignment					
	PHMA	GHMA	OHMA	Anthro Mtn	Non-HMA	Total
Closed	100%	5%	4%	100%	13%	21%
Open	0%	95%	96%	0%	87%	79%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

No Action & Management Alignment -  
PHMA - Non-Energy Leasable Minerals



**Figure 31 – Non-Energy Leasable Minerals Decisions within MZ III**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.



**Figure 31 (cont'd) – Non-Energy Leasable Minerals Decisions within MZ III**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

**VII. Fluid Minerals (Oil & Gas)****Table 33 – Fluid Mineral (Oil & Gas) Decisions within MZ III**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

<b>Approximate Acres of Fluid Mineral (Oil &amp; Gas) Decisions in MZ III by Habitat Management Area Type</b>						
<b>Fluid Mineral (Oil &amp; Gas) Decisions</b>	<b>No Action</b>					
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Anthro Mtn</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	126,000	165,000	230,000	7,000	4,948,000	<b>5,476,000</b>
Open NSO	5,358,000	23,000	0	35,000	3,431,000	<b>8,847,000</b>
Open CSU/TL	0	3,628,000	0	0	2,135,000	<b>5,763,000</b>
Open Standard Stipulations	0	86,000	4,042,000	0	26,502,000	<b>30,630,000</b>
<b>Total</b>	<b>5,484,000</b>	<b>3,902,000</b>	<b>4,272,000</b>	<b>42,000</b>	<b>37,016,000</b>	<b>50,716,000</b>

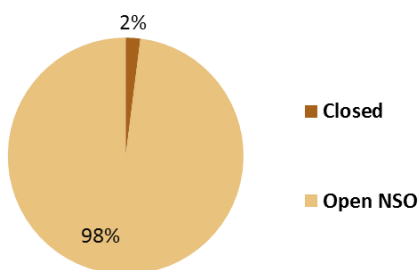
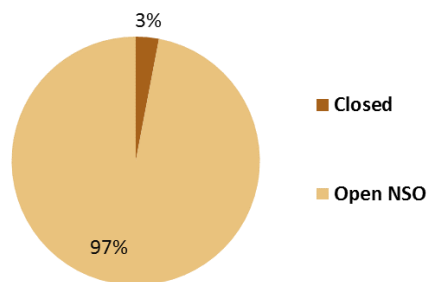
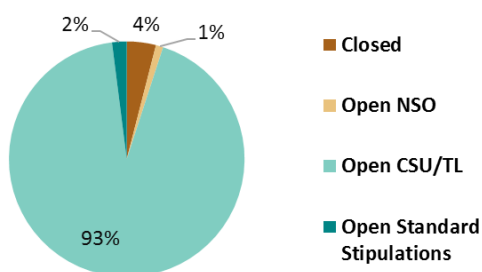
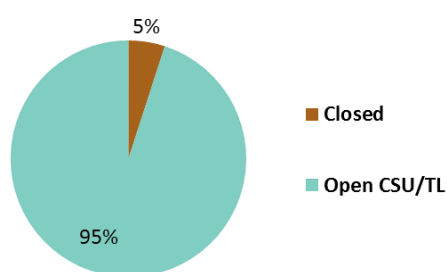
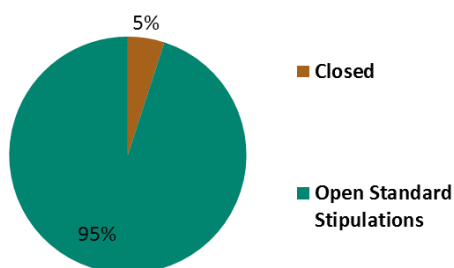
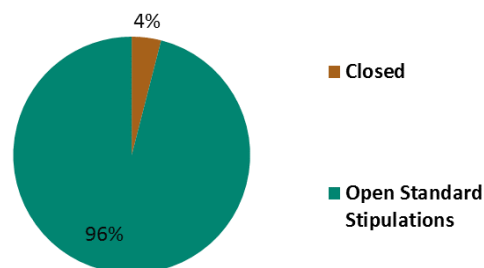
<b>Fluid Mineral (Oil &amp; Gas) Decisions</b>	<b>Management Alignment</b>					
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Anthro Mtn</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	144,000	176,000	159,000	7,000	4,990,000	<b>5,476,000</b>
Open NSO	5,464,000	0	0	35,000	3,454,000	<b>8,952,000</b>
Open CSU/TL	0	3,565,000	0	0	2,191,000	<b>5,756,000</b>
Open Standard Stipulations	0	0	3,534,000	0	26,991,000	<b>30,525,000</b>
<b>Total</b>	<b>5,607,000</b>	<b>3,741,000</b>	<b>3,693,000</b>	<b>42,000</b>	<b>37,626,000</b>	<b>50,710,000</b>

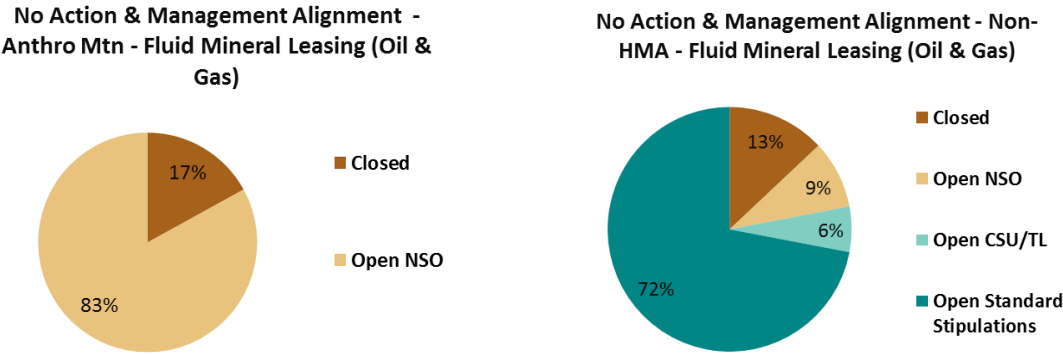
<b>Approximate % of Habitat Management Area by Fluid Mineral (Oil &amp; Gas) Decision in MZ III</b>						
<b>Fluid Mineral (Oil &amp; Gas) Decisions</b>	<b>No Action</b>					
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Anthro Mtn</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	2%	4%	5%	17%	13%	<b>11%</b>
Open NSO	98%	1%	0%	83%	9%	<b>17%</b>
Open CSU/TL	0%	93%	0%	0%	6%	<b>11%</b>
Open Standard Stipulations	0%	2%	95%	0%	72%	<b>60%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

<b>Fluid Mineral (Oil &amp; Gas) Decisions</b>	<b>Management Alignment</b>					
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Anthro Mtn</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	3%	5%	4%	17%	13%	<b>11%</b>
Open NSO	97%	0%	0%	83%	9%	<b>18%</b>
Open CSU/TL	0%	95%	0%	0%	6%	<b>11%</b>
Open Standard Stipulations	0%	0%	96%	0%	72%	<b>60%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

**No Action - PHMA - Fluid Mineral Leasing (Oil & Gas)****Management Alignment - PHMA - Fluid Mineral Leasing (Oil & Gas)****No Action - GHMA - Fluid Mineral Leasing (Oil & Gas)****Management Alignment - GHMA - Fluid Mineral Leasing (Oil & Gas)****No Action - OHMA - Fluid Mineral Leasing (Oil & Gas)****Management Alignment - OHMA - Fluid Mineral Leasing (Oil & Gas)****Figure 32 – Fluid Mineral (Oil & Gas) Decisions within MZ III**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.



**Figure 32 (cont'd) – Fluid Mineral (Oil & Gas) Decisions within MZ III**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

## VIII. Rights-of-Ways

**Table 34 – Rights-of-Ways Decisions within MZ III**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

Approximate Acres of Rights-of-Ways Decisions in MZ III by Habitat Management Area Type						
Rights-of-Ways	No Action					
	PHMA	GHMA	OHMA	Anthro Mtn	Non-HMA	Total
Exclusion	86,000	164,000	230,000	NA	3,794,000	4,274,000
Avoidance	4,591,000	3,495,000	0	NA	799,000	8,884,000
Open	46,000	216,000	4,043,000	NA	27,890,000	32,195,000
<b>Total</b>	<b>4,722,000</b>	<b>3,875,000</b>	<b>4,272,000</b>	<b>NA</b>	<b>32,483,000</b>	<b>45,353,000</b>

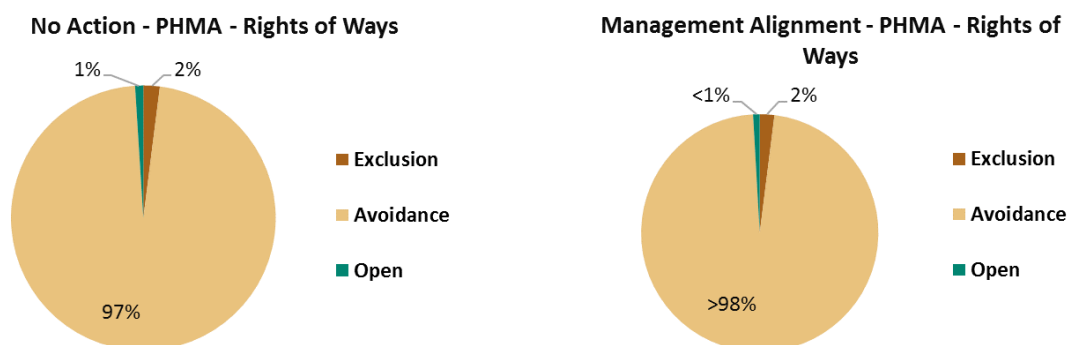
Rights-of-Ways	Management Alignment					
	PHMA	GHMA	OHMA	Anthro Mtn	Non-HMA	Total
Exclusion	104,000	176,000	159,000	NA	3,837,000	4,275,000
Avoidance	4,726,000	3,565,000	0	NA	373,000	8,664,000
Open	17,000	0	3,534,000	NA	28,857,000	32,408,000
<b>Total</b>	<b>4,847,000</b>	<b>3,741,000</b>	<b>3,693,000</b>	<b>NA</b>	<b>33,066,000</b>	<b>45,348,000</b>

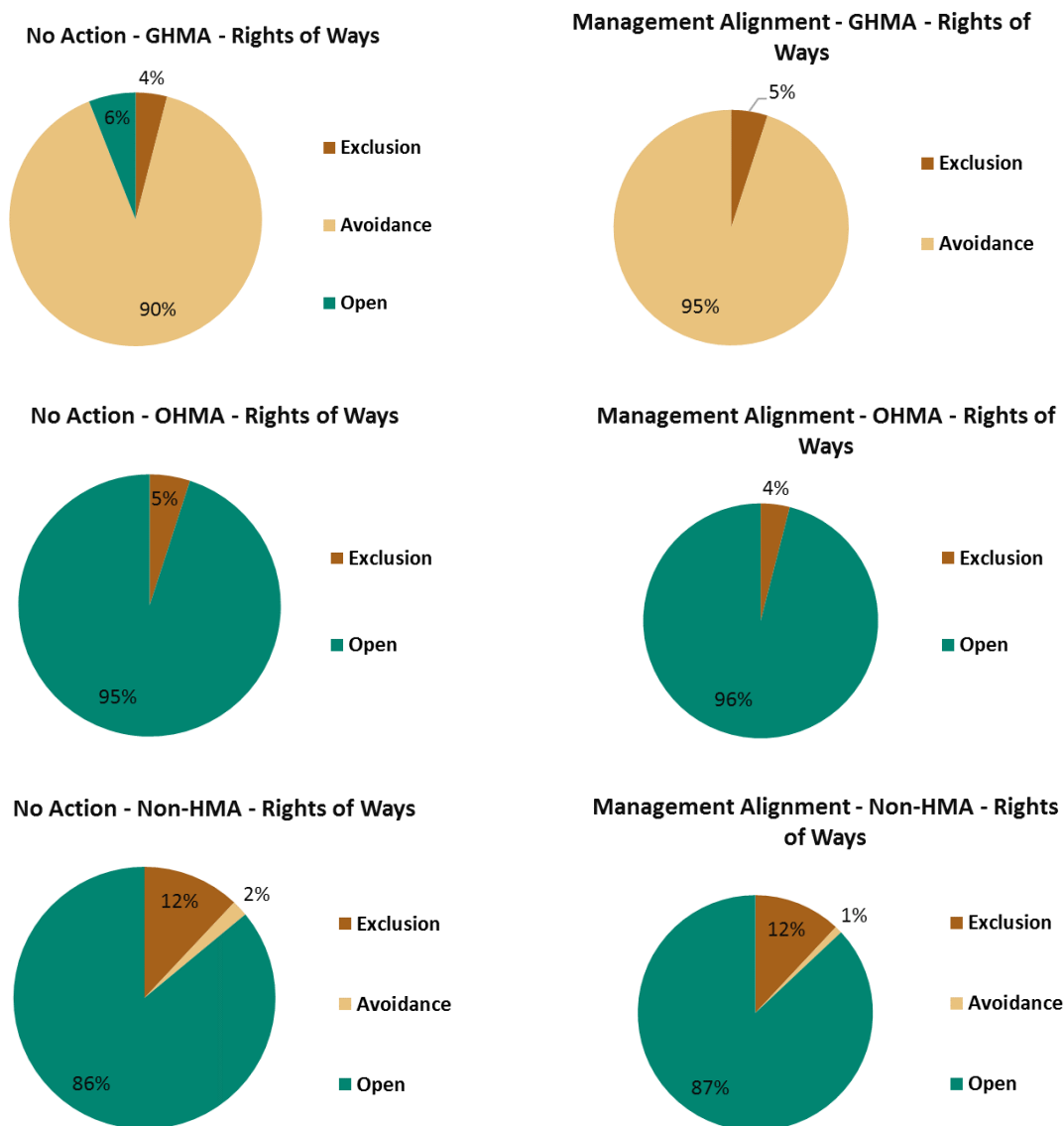
Approximate % of Habitat Management Area by Rights-of-Ways Decision in MZ III						
Rights-of-Ways	No Action					
	PHMA	GHMA	OHMA	Anthro Mtn	Non-HMA	Total
Exclusion	2%	4%	5%	NA	12%	9%
Avoidance	97%	90%	0%	NA	2%	20%
Open	1%	6%	95%	NA	86%	71%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>NA</b>	<b>100%</b>	<b>100%</b>

Rights-of-Ways	Management Alignment					
	PHMA	GHMA	OHMA	Anthro Mtn	Non-HMA	Total
Exclusion	2%	5%	4%	NA	12%	9%
Avoidance	98%	95%	0%	NA	1%	19%
Open	<1%	0%	96%	NA	87%	71%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>NA</b>	<b>100%</b>	<b>100%</b>

**Figure 33 – Rights-of-Ways Decisions within MZ III**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.



**Figure 33 (cont'd) – Rights-of-Ways Decisions within MZ III**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

**IX. Salable Minerals Materials****Table 35 – Salable Minerals Materials Decisions within MZ III**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

<b>Approximate Acres of Salable Minerals Materials Decisions in MZ III by Habitat Management Area Type</b>						
<b>Salable Minerals Materials</b>	<b>No Action</b>					
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Anthro Mtn</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	4,722,000	172,000	230,000	NA	4,646,000	<b>9,770,000</b>
Open	0	3,707,000	4,042,000	NA	27,834,000	<b>35,583,000</b>
<b>Total</b>	<b>4,723,000</b>	<b>3,878,000</b>	<b>4,272,000</b>	<b>NA</b>	<b>32,479,000</b>	<b>45,353,000</b>

<b>Salable Minerals Materials</b>	<b>Management Alignment</b>					
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Anthro Mtn</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	4,847,000	176,000	159,000	NA	4,694,000	<b>9,876,000</b>
Open	0	3,565,000	3,534,000	NA	28,372,000	<b>35,471,000</b>
<b>Total</b>	<b>4,847,000</b>	<b>3,741,000</b>	<b>3,693,000</b>	<b>NA</b>	<b>33,066,000</b>	<b>45,347,000</b>

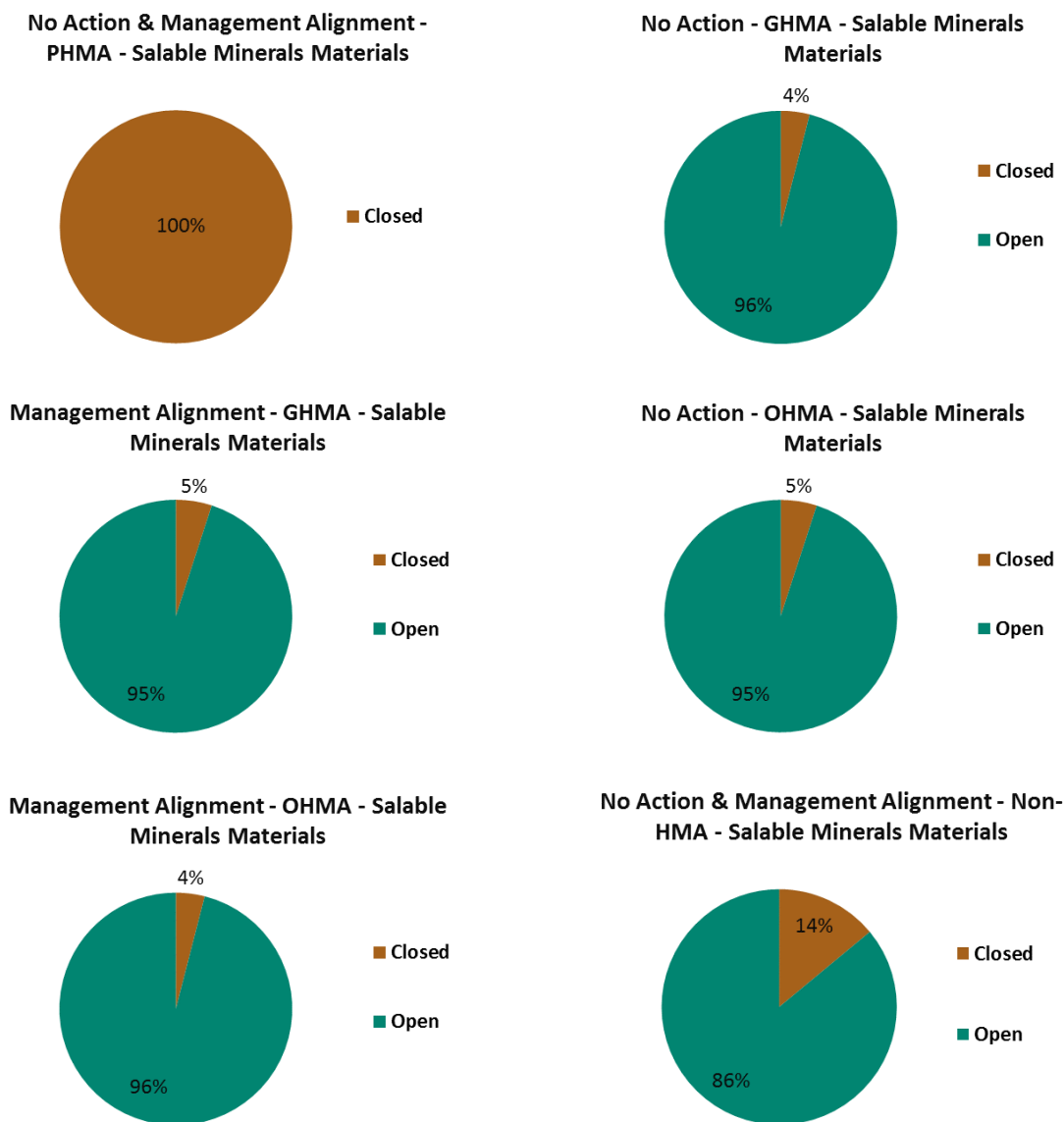
  

<b>Approximate % of Habitat Management Area by Non-Energy Leasable Minerals Decision in MZ III</b>						
<b>Salable Minerals Materials</b>	<b>No Action</b>					
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Anthro Mtn</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	100%	4%	5%	NA	14%	<b>22%</b>
Open	0%	96%	95%	NA	86%	<b>78%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>NA</b>	<b>100%</b>	<b>100%</b>

<b>Salable Minerals Materials</b>	<b>Management Alignment</b>					
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Anthro Mtn</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	100%	5%	4%	NA	14%	<b>22%</b>
Open	0%	95%	96%	NA	86%	<b>78%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>NA</b>	<b>100%</b>	<b>100%</b>





**Figure 34 – Salable Minerals Materials Decisions within MZ III**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

## X. Solar Energy

**Table 36 – Solar Energy Decisions within MZ III**

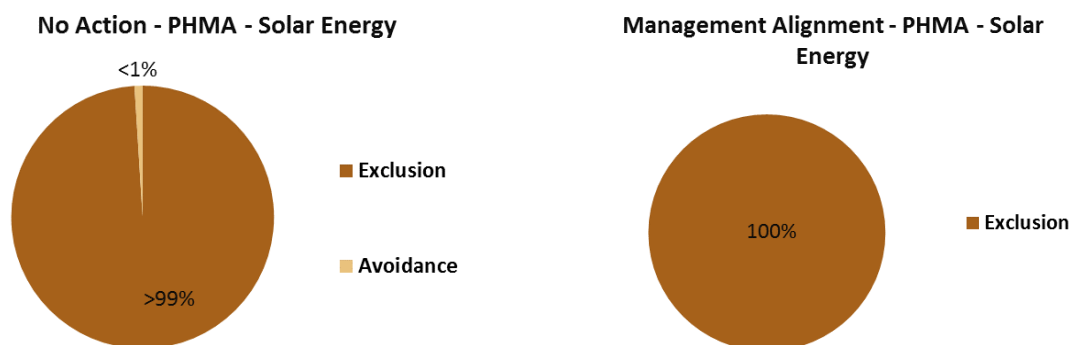
Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

Approximate Acres of Solar Energy Decisions in MZ III by Habitat Management Area Type						
Solar Energy	No Action					
	PHMA	GHMA	OHMA	Anthro Mtn	Non-HMA	Total
Exclusion	4,731,000	3,886,000	3,417,000	NA	24,421,000	36,454,000
Avoidance	2,000	4,000	857,000	NA	7,637,000	8,499,000
Open	0	0	1,000	NA	340,000	341,000
<b>Total</b>	<b>4,732,000</b>	<b>3,889,000</b>	<b>4,274,000</b>	<b>NA</b>	<b>32,398,000</b>	<b>45,294,000</b>

Solar Energy	Management Alignment					
	PHMA	GHMA	OHMA	Anthro Mtn	Non-HMA	Total
Exclusion	4,858,000	3,748,000	3,699,000	NA	24,867,000	37,172,000
Avoidance	0	0	0	NA	7,770,000	7,770,000
Open	0	0	0	NA	346,000	346,000
<b>Total</b>	<b>4,858,000</b>	<b>3,748,000</b>	<b>3,699,000</b>	<b>NA</b>	<b>32,983,000</b>	<b>45,288,000</b>

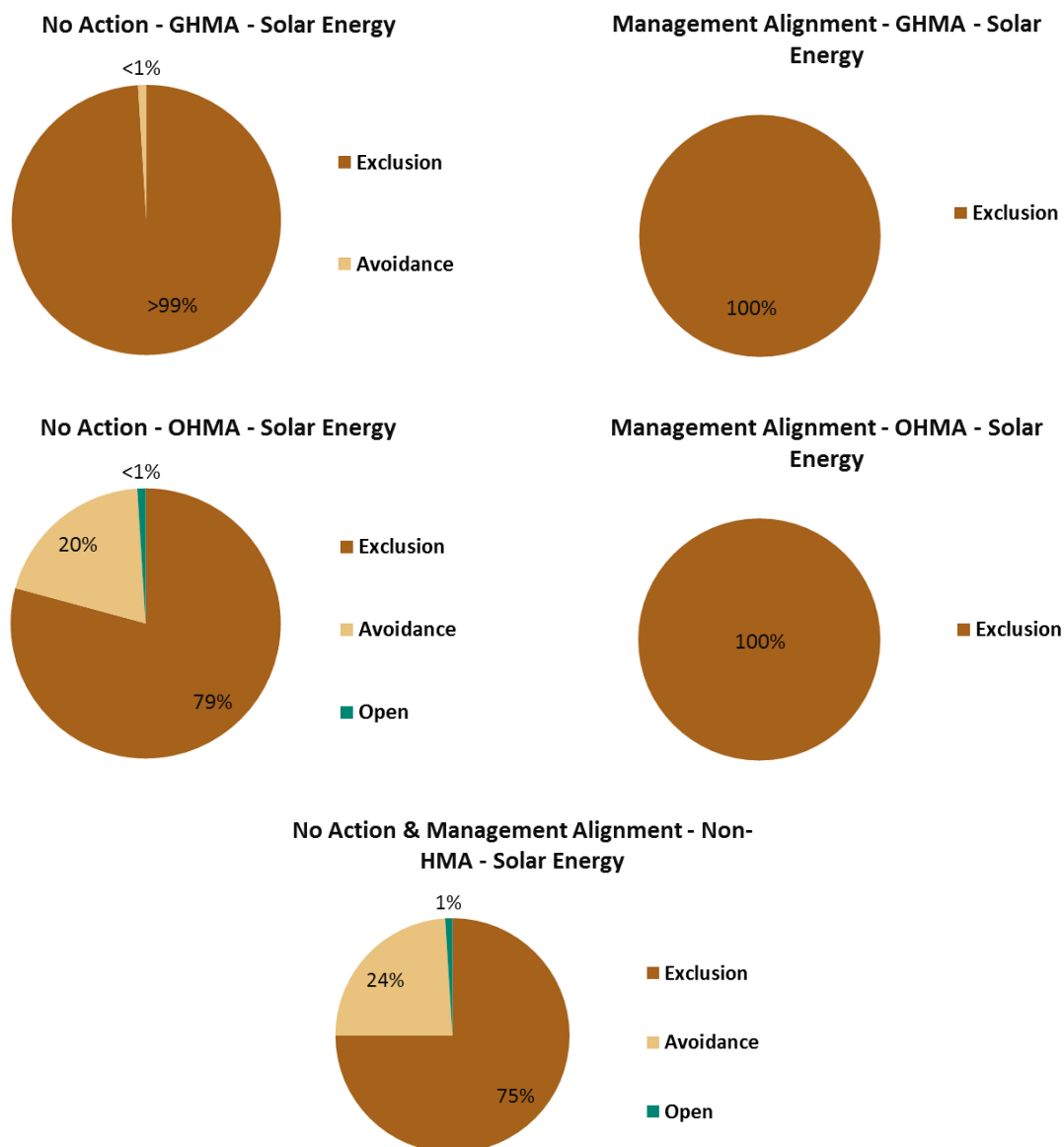
Approximate % of Habitat Management Area by Solar Energy Decision in MZ III						
Solar Energy	No Action					
	PHMA	GHMA	OHMA	Anthro Mtn	Non-HMA	Total
Exclusion	100%	100%	80%	NA	75%	80%
Avoidance	<1%	<1%	20%	NA	24%	19%
Open	0%	0%	<1%	NA	1%	1%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>NA</b>	<b>100%</b>	<b>100%</b>

Solar Energy	Management Alignment					
	PHMA	GHMA	OHMA	Anthro Mtn	Non-HMA	Total
Exclusion	100%	100%	100%	NA	75%	82%
Avoidance	0%	0%	0%	NA	24%	17%
Open	0%	0%	0%	NA	1%	1%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>NA</b>	<b>100%</b>	<b>100%</b>



**Figure 35 – Solar Energy Decisions within MZ III**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.



**Figure 35 (cont'd) – Solar Energy Decisions within MZ III**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

**XI. Trails and Travel Management****Table 37 – Trails and Travel Management Decisions within MZ III**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

<b>Approximate Acres of Trails and Travel Management Decisions in MZ III by Habitat Management Area Type</b>						
<b>Trails and Travel Management Decisions</b>	<b>No Action</b>					
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Anthro Mtn</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	16,000	84,000	52,000	NA	2,517,000	<b>2,669,000</b>
Limited	4,702,000	3,791,000	1,000	NA	5,791,000	<b>14,285,000</b>
Open	0	0	4,219,000	NA	24,153,000	<b>28,372,000</b>
<b>Total</b>	<b>4,718,000</b>	<b>3,875,000</b>	<b>4,273,000</b>	<b>NA</b>	<b>32,461,000</b>	<b>45,326,000</b>

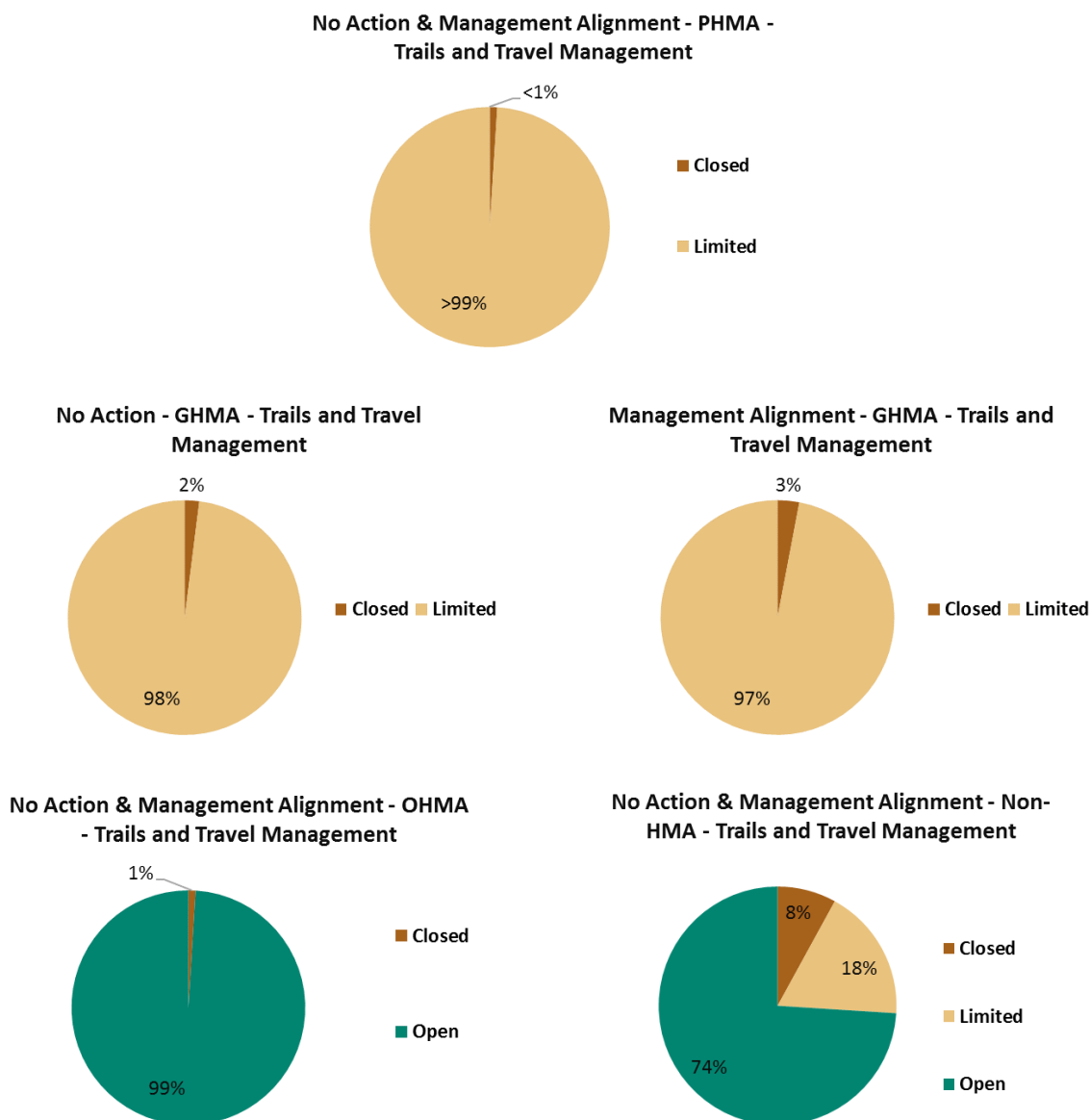
<b>Trails and Travel Management Decisions</b>	<b>Management Alignment</b>					
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Anthro Mtn</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	21,000	100,000	42,000	NA	2,505,000	<b>2,668,000</b>
Limited	4,821,000	3,642,000	14,000	NA	6,095,000	<b>14,572,000</b>
Open	0	0	3,637,000	NA	24,429,000	<b>28,066,000</b>
<b>Total</b>	<b>4,842,000</b>	<b>3,741,000</b>	<b>3,693,000</b>	<b>NA</b>	<b>33,030,000</b>	<b>45,307,000</b>

<b>Approximate % of Habitat Management Area by Trails and Travel Management Decisions Decision in MZ III</b>						
<b>Trails and Travel Management Decisions</b>	<b>No Action</b>					
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Anthro Mtn</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	<1%	2%	1%	NA	8%	<b>6%</b>
Limited	100%	98%	0%	NA	18%	<b>32%</b>
Open	0%	0%	99%	NA	74%	<b>63%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>NA</b>	<b>100%</b>	<b>100%</b>

<b>Trails and Travel Management Decisions</b>	<b>Management Alignment</b>					
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Anthro Mtn</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	<1%	3%	1%	NA	8%	<b>6%</b>
Limited	100%	97%	0%	NA	18%	<b>32%</b>
Open	0%	0%	98%	NA	74%	<b>62%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>NA</b>	<b>100%</b>	<b>100%</b>



**Figure 36 – Trails and Travel Management Decisions within MZ III**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

**XII. Wind Energy****Table 38 – Wind Energy Decisions within MZ III**

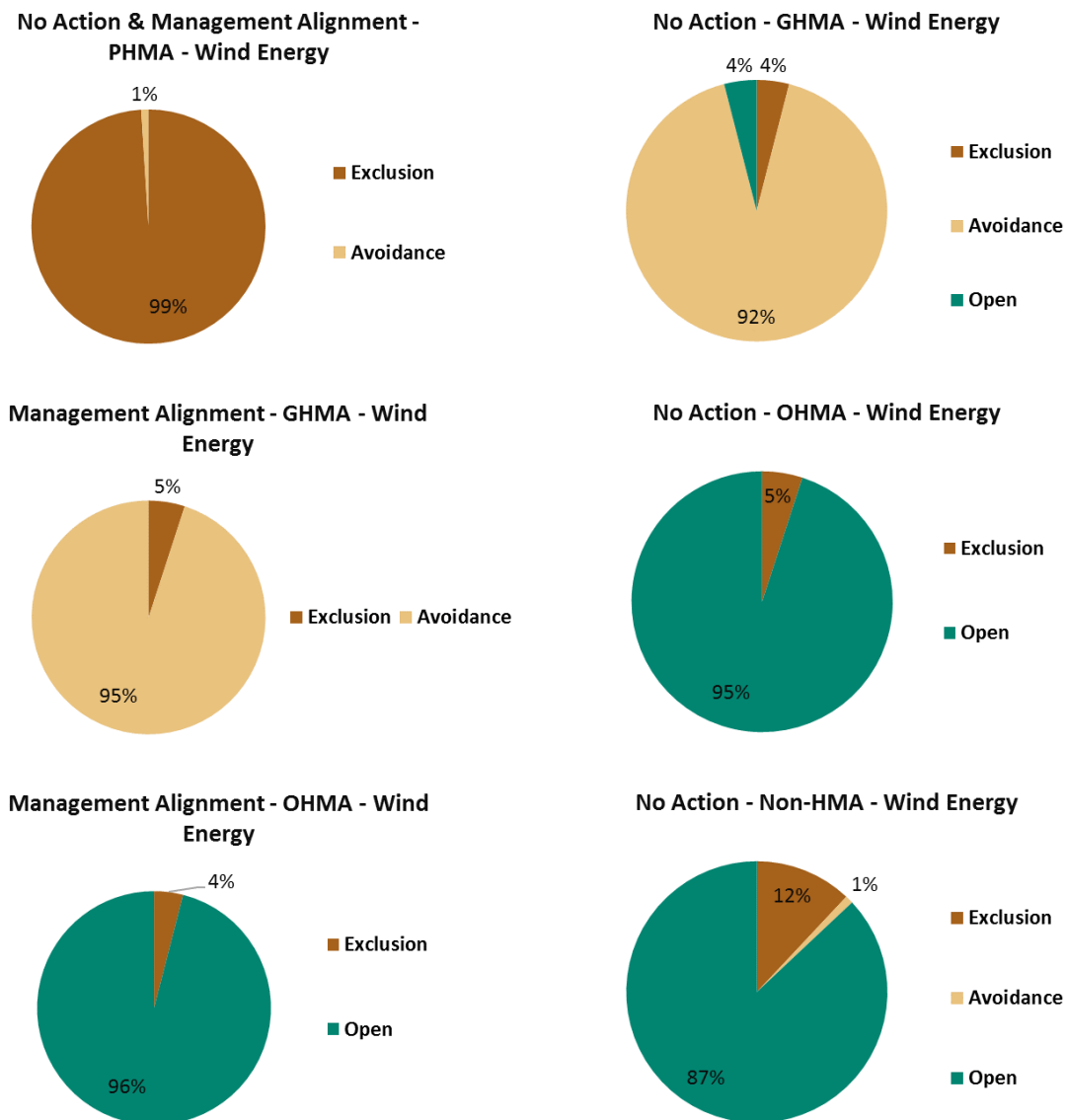
Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

<b>Approximate Acres of Wind Energy Decisions in MZ III by Habitat Management Area Type</b>						
<b>Wind Energy</b>	<b>No Action</b>					
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Anthro Mtn</b>	<b>Non-HMA</b>	<b>Total</b>
Exclusion	4,669,000	166,000	230,000	NA	3,939,000	<b>9,004,000</b>
Avoidance	0	3,572,000	0	NA	212,000	<b>3,784,000</b>
Open	54,000	137,000	4,042,000	NA	28,265,000	<b>32,498,000</b>
<b>Total</b>	<b>4,723,000</b>	<b>3,876,000</b>	<b>4,272,000</b>	<b>NA</b>	<b>32,415,000</b>	<b>45,286,000</b>

<b>Wind Energy</b>	<b>Management Alignment</b>					
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Anthro Mtn</b>	<b>Non-HMA</b>	<b>Total</b>
Exclusion	4,793,000	176,000	159,000	NA	3,982,000	<b>9,110,000</b>
Avoidance	0	3,565,000	0	NA	212,000	<b>3,777,000</b>
Open	54,000	0	3,534,000	NA	28,805,000	<b>32,393,000</b>
<b>Total</b>	<b>4,847,000</b>	<b>3,741,000</b>	<b>3,693,000</b>	<b>NA</b>	<b>32,999,000</b>	<b>45,280,000</b>

<b>Approximate % of Habitat Management Area by Wind Energy Decision in MZ III</b>						
<b>Wind Energy</b>	<b>No Action</b>					
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Anthro Mtn</b>	<b>Non-HMA</b>	<b>Total</b>
Exclusion	0%	92%	0%	NA	1%	<b>8%</b>
Avoidance	99%	4%	5%	NA	12%	<b>20%</b>
Open	1%	4%	95%	NA	87%	<b>72%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>NA</b>	<b>100%</b>	<b>100%</b>

<b>Wind Energy</b>	<b>Management Alignment</b>					
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Anthro Mtn</b>	<b>Non-HMA</b>	<b>Total</b>
Exclusion	0%	95%	0%	NA	1%	<b>8%</b>
Avoidance	99%	5%	4%	NA	12%	<b>20%</b>
Open	1%	0%	96%	NA	87%	<b>72%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>NA</b>	<b>100%</b>	<b>100%</b>



**Figure 37 – Wind Energy Decisions within MZ III**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

### S-2.2.4 Management Zone IV – ID, UT, NV, OR

#### I. Habitat Management

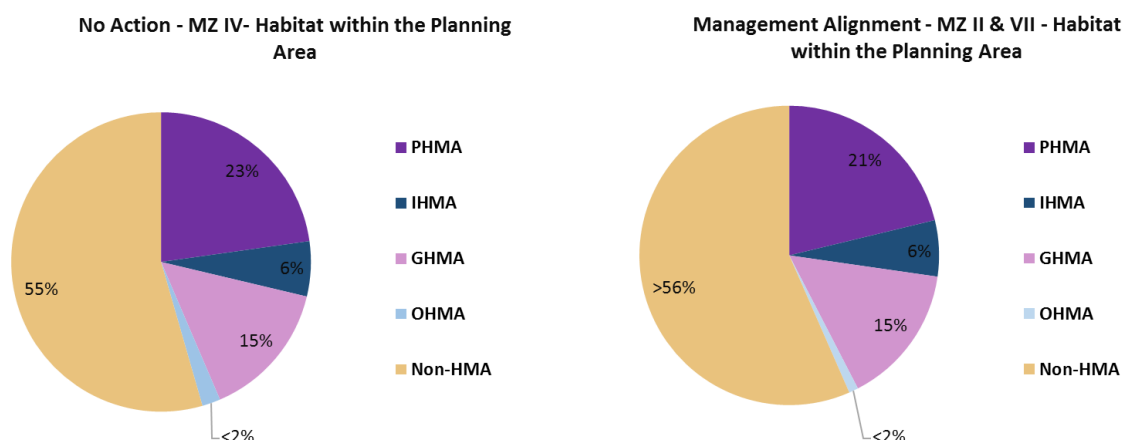
**Table 39 – Habitat Management Areas within MZ IV**

Acres and percentages reflect all lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

Approximate Acres of HMA in MZ IV									
No Action					Management Alignment				
PHMA	IHMA	GHMA	OHMA	Non-HMA	PHMA	IHMA	GHMA	OHMA	Non-HMA
17,170,000	4,449,000	11,447,00	1,261,000	41,395,000	16,147,000	4,519,000	11,297,000	990,000	42,769,022

Approximate Percent of MZ IV that is HMA									
No Action					Management Alignment				
PHMA	IHMA	GHMA	OHMA	Non-HMA	PHMA	IHMA	GHMA	OHMA	Non-HMA
23%	6%	15%	2%	55%	21%	6%	15%	1%	56%



**Figure 38 – Habitat Management Areas within MZ IV**

Percentages reflect all lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.



## II. Geothermal Energy

**Table 40 – Geothermal Energy Decisions within MZ IV**

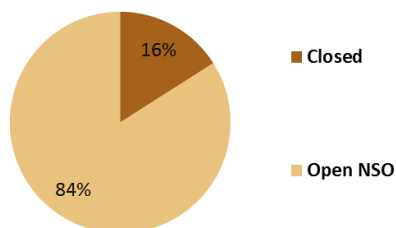
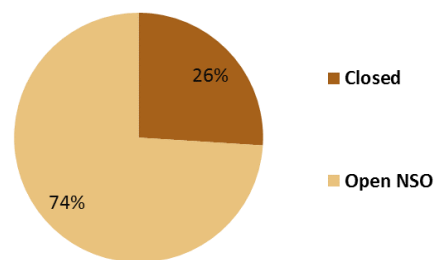
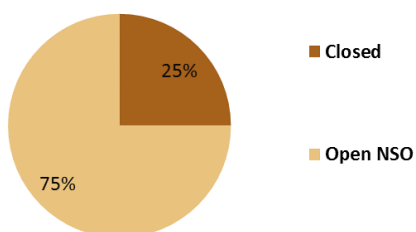
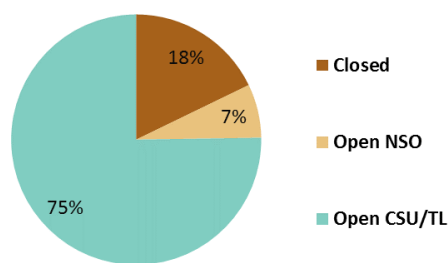
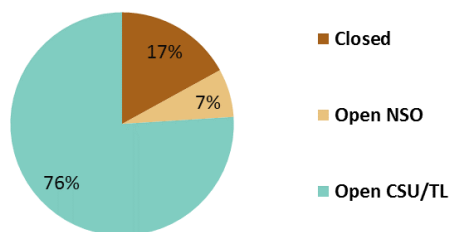
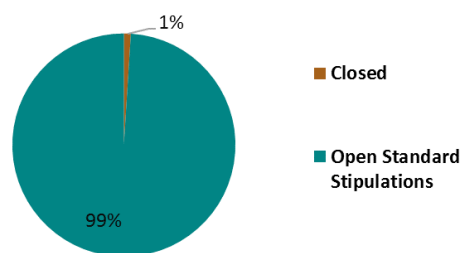
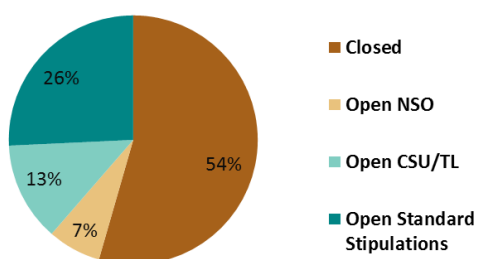
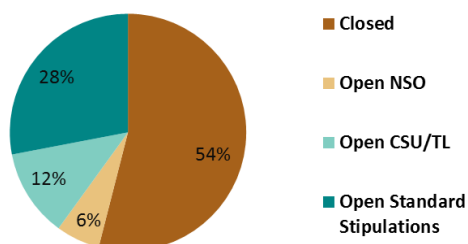
Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

<b>Approximate Acres of Geothermal Energy Decisions in MZ IV by Habitat Management Area Type</b>						
<b>Geothermal Energy</b>	<b>No Action</b>					
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	1,923,000	918,000	1,130,000	4,000	9,440,000	<b>13,415,000</b>
Open NSO	10,256,000	2,638,000	424,000	0	1,125,000	<b>14,443,000</b>
Open CSU/TL	0	0	4,881,000	0	2,196,000	<b>7,077,000</b>
Open Standard Stipulations	0	3,000	20,000	704,000	4,529,000	<b>5,257,000</b>
<b>Total</b>	<b>12,178,000</b>	<b>3,560,000</b>	<b>6,455,000</b>	<b>708,000</b>	<b>17,290,000</b>	<b>40,191,000</b>

<b>Geothermal Energy</b>	<b>Management Alignment</b>					
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	1,913,000	918,000	1,133,000	6,000	9,439,000	<b>13,410,000</b>
Open NSO	9,848,000	2,702,000	424,000	0	1,125,000	<b>14,099,000</b>
Open CSU/TL	0	0	4,974,000	0	2,196,000	<b>7,169,000</b>
Open Standard Stipulations	0	3,000	20,000	616,000	4,855,000	<b>5,494,000</b>
<b>Total</b>	<b>11,762,000</b>	<b>3,624,000</b>	<b>6,550,000</b>	<b>622,000</b>	<b>17,615,000</b>	<b>40,173,000</b>

<b>Approximate % of Habitat Management Area by Geothermal Energy Decision in MZ IV</b>						
<b>Geothermal Energy</b>	<b>No Action</b>					
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	16%	26%	18%	1%	55%	<b>33%</b>
Open NSO	84%	74%	7%	0%	7%	<b>36%</b>
Open CSU/TL	0%	0%	76%	0%	13%	<b>18%</b>
Open Standard Stipulations	0%	0%	0%	99%	26%	<b>13%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

<b>Geothermal Energy</b>	<b>Management Alignment</b>					
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	16%	25%	17%	1%	54%	<b>33%</b>
Open NSO	84%	75%	6%	0%	6%	<b>35%</b>
Open CSU/TL	0%	0%	76%	0%	12%	<b>18%</b>
Open Standard Stipulations	0%	0%	0%	99%	28%	<b>14%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

**No Action & Management Alignment - PHMA - Geothermal Energy****No Action - IHMA - Geothermal Energy****Management Alignment - IHMA - Geothermal Energy****No Action - GHMA - Geothermal Energy****Management Alignment - GHMA - Geothermal Energy****No Action & Management Alignment - OHMA - Geothermal Energy****No Action - Non-HMA - Geothermal Energy****Management Alignment - Non-HMA - Geothermal Energy****Figure 39 – Geothermal Energy Decisions within MZ IV**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

### III. Land Tenure

**Table 4I – Land Tenure Decisions within MZ IV**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

Approximate Acres of Land Tenure Decisions in MZ IV by Habitat Management Area Type						
Land Tenure	No Action					
	PHMA	IHMA	GHMA	OHMA	Non-HMA	Total
Disposal	0	0	1,000	146,000	659,000	805,000
Retention	10,726,000	2,719,000	4,948,000	562,000	4,277,000	23,232,000
<b>Total</b>	<b>10,727,000</b>	<b>2,719,000</b>	<b>4,949,000</b>	<b>708,000</b>	<b>4,935,000</b>	<b>24,038,000</b>

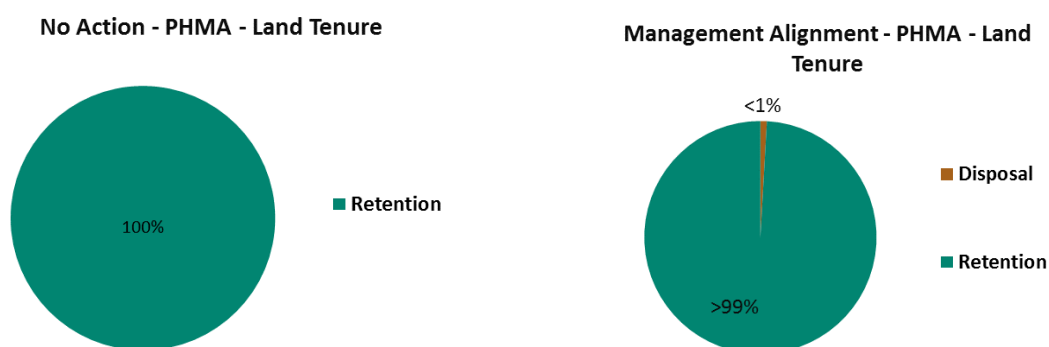
Land Tenure	Management Alignment					
	PHMA	IHMA	GHMA	OHMA	Non-HMA	Total
Disposal	6,000	0	25,000	85,000	799,000	914,000
Retention	10,319,000	2,780,000	5,019,000	537,000	4,462,000	23,117,000
<b>Total</b>	<b>10,325,000</b>	<b>2,780,000</b>	<b>5,043,000</b>	<b>622,000</b>	<b>5,261,000</b>	<b>24,032,000</b>

Approximate % of Habitat Management Area by Land Tenure Decision in MZ III						
Land Tenure	No Action					
	PHMA	IHMA	GHMA	OHMA	Non-HMA	Total
Disposal	0%	0%	<1%	21%	13%	3%
Retention	100%	100%	100%	79%	87%	97%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

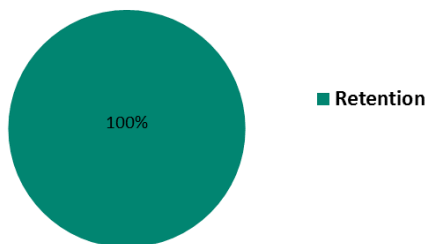
  

Land Tenure	Management Alignment					
	PHMA	IHMA	GHMA	OHMA	Non-HMA	Total
Disposal	<1%	0%	<1%	14%	15%	4%
Retention	100%	100%	100%	86%	85%	96%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

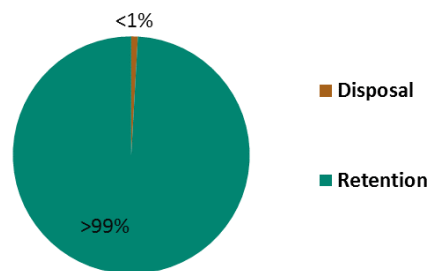


**Figure 40 – Land Tenure Decisions within MZ IV**

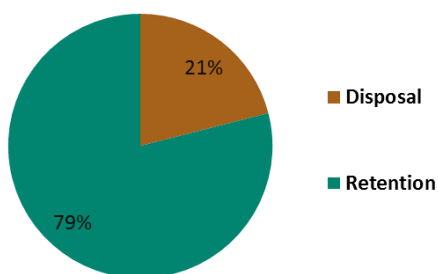
Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

No Action & Management Alignment - IHMA  
- Land Tenure

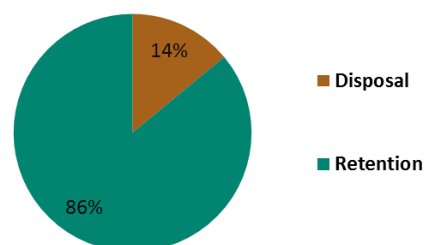
No Action &amp; Management Alignment - GHMA - Land Tenure



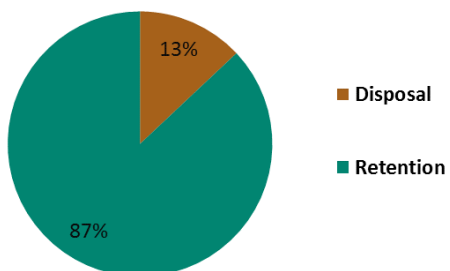
No Action - OHMA - Land Tenure



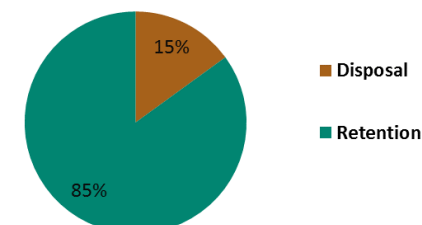
Management Alignment - OHMA - Land Tenure



No Action - Non-HMA - Land Tenure



Management Alignment - Non-HMA - Land Tenure

**Figure 40 (cont'd) – Land Tenure Decisions within MZ IV**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

#### IV. Livestock Grazing

**Table 42 – Livestock Grazing Decisions within MZ IV**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

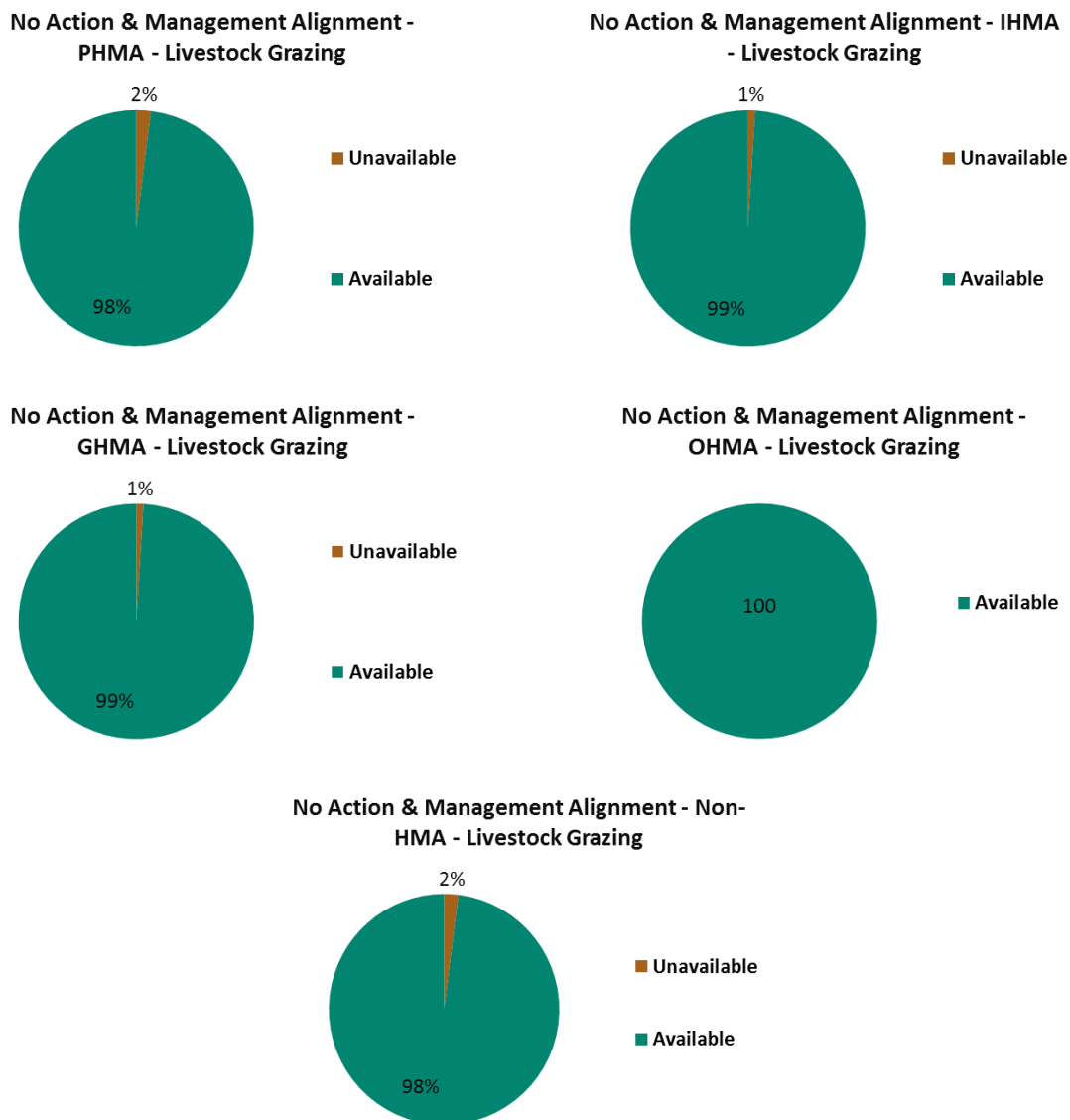
<b>Approximate Acres of Livestock Grazing Decisions in MZ IV by Habitat Management Area Type</b>						
<b>Livestock Grazing</b>	<b>No Action</b>					
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Unavailable	182,000	18,000	43,000	0	92,000	<b>335,000</b>
Available	10,515,000	2,701,000	4,923,000	709,000	4,562,000	<b>23,411,000</b>
<b>Total</b>	<b>10,697,000</b>	<b>2,719,000</b>	<b>4,966,000</b>	<b>709,000</b>	<b>4,655,000</b>	<b>23,746,000</b>

<b>Livestock Grazing</b>	<b>Management Alignment</b>					
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Unavailable	182,000	18,000	43,000	0	92,000	<b>335,000</b>
Available	10,112,000	2,762,000	5,029,000	620,000	4,883,000	<b>23,406,000</b>
<b>Total</b>	<b>10,294,000</b>	<b>2,780,000</b>	<b>5,072,000</b>	<b>620,000</b>	<b>4,975,000</b>	<b>23,740,000</b>

<b>Approximate % of Habitat Management Area by Livestock Grazing Decision in MZ IV</b>						
<b>Livestock Grazing</b>	<b>No Action &amp; Management Alignment</b>					
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Unavailable	2%	1%	1%	0%	2%	<b>1%</b>
Available	98%	99%	99%	100%	98%	<b>99%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>



**Figure 4I – Livestock Grazing Decisions within MZ IV**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

**V. Locatable Minerals****Table 43 – Locatable Minerals Decisions within MZ IV**

Acres and Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

<b>Approximate Acres of Locatable Minerals Decisions in MZ IV by Habitat Management Area Type</b>						
<b>Locatable Minerals</b>	<b>No Action</b>					
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Existing Withdrawals	1,079,000	442,000	432,000	0	3,606,000	<b>5,560,000</b>
Recommended Withdrawals	4,836,000	0	2,000	0	0	<b>4,838,000</b>
Open	6,074,000	2,858,000	6,055,000	708,000	13,798,000	<b>29,492,000</b>
<b>Total</b>	<b>11,990,000</b>	<b>3,300,000</b>	<b>6,489,000</b>	<b>708,000</b>	<b>17,404,000</b>	<b>39,891,000</b>

<b>Locatable Minerals</b>	<b>Management Alignment</b>					
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Existing Withdrawals	1,078,000	442,000	431,000	0	3,605,000	<b>5,556,000</b>
Recommended Withdrawals	0	0	2,000	0	0	<b>2,000</b>
Open	10,518,000	2,923,000	6,151,000	622,000	14,113,000	<b>34,327,000</b>
<b>Total</b>	<b>11,597,000</b>	<b>3,364,000</b>	<b>6,584,000</b>	<b>622,000</b>	<b>17,718,000</b>	<b>39,885,000</b>

<b>Approximate % of Habitat Management Area by Geothermal Energy Decision in MZ IV</b>						
<b>Locatable Minerals</b>	<b>No Action</b>					
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Existing Withdrawals	9%	13%	7%	0%	21%	<b>14%</b>
Recommended Withdrawals	40%	0%	0%	0%	0%	<b>12%</b>
Open	51%	87%	93%	100%	79%	<b>74%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

<b>Locatable Minerals</b>	<b>Management Alignment</b>					
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Existing Withdrawals	9%	13%	9%	0%	20%	<b>14%</b>
Recommended Withdrawals	0%	0%	<1%	0%	0%	<b>0%</b>
Open	91%	87%	91%	100%	80%	<b>86%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>



**Figure 42 – Locatable Minerals Decisions within MZ IV**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.



## VI. Non-Energy Leasable Minerals

**Table 44 – Non-Energy Leasable Minerals Decisions within MZ IV**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

<b>Approximate Acres of Non-Energy Leasable Minerals Decisions in MZ IV by Habitat Management Area Type</b>						
<b>Non-Energy Leasable Minerals</b>	<b>No Action</b>					
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	12,180,000	682,000	1,059,000	4,000	9,139,000	<b>23,064,000</b>
Open	0	2,877,000	5,413,000	704,000	8,375,000	<b>17,369,000</b>
<b>Total</b>	<b>12,180,000</b>	<b>3,559,000</b>	<b>6,472,000</b>	<b>708,000</b>	<b>17,514,000</b>	<b>40,433,000</b>

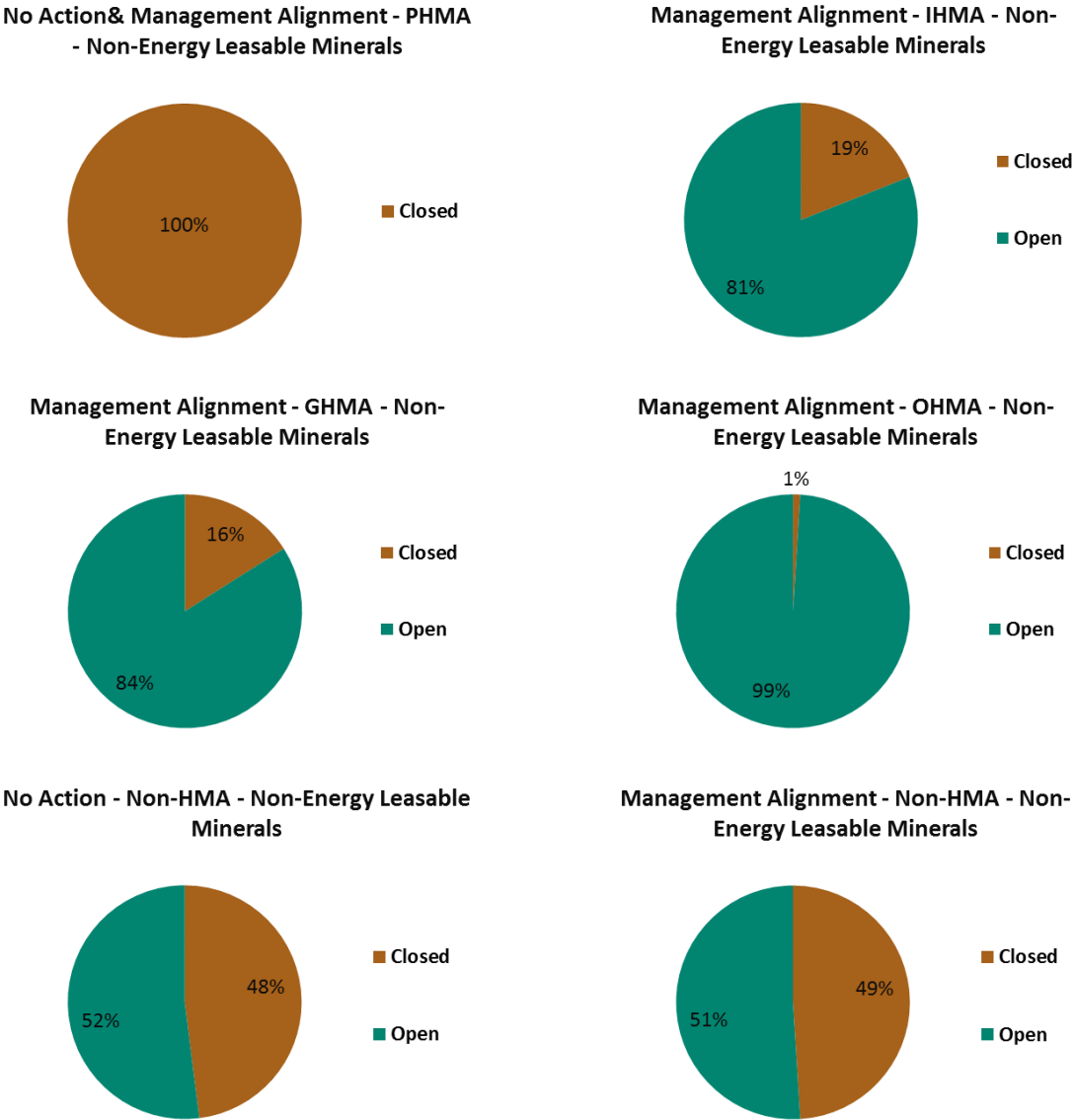
<b>Non-Energy Leasable Minerals</b>	<b>Management Alignment</b>					
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	11,775,000	682,000	1,062,000	6,000	9,138,000	<b>22,663,000</b>
Open	0	2,941,000	5,505,000	616,000	8,701,000	<b>17,763,000</b>
<b>Total</b>	<b>11,775,000</b>	<b>3,624,000</b>	<b>6,567,000</b>	<b>622,000</b>	<b>17,839,000</b>	<b>40,426,000</b>

<b>Approximate % of Habitat Management Area by Non-Energy Leasable Minerals Decision in MZ IV</b>						
<b>Non-Energy Leasable Minerals</b>	<b>No Action</b>					
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	100%	19%	16%	1%	52%	<b>57%</b>
Open	0%	81%	84%	99%	48%	<b>43%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

<b>Non-Energy Leasable Minerals</b>	<b>Management Alignment</b>					
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	100%	19%	16%	1%	51%	<b>56%</b>
Open	0%	81%	84%	99%	49%	<b>44%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>



**Figure 43 – Non-Energy Leasable Minerals Decisions within MZ IV**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

**VII. Fluid Minerals (Oil & Gas)****Table 45 – Fluid Mineral (Oil & Gas) Decisions within MZ IV**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

<b>Approximate Acres of Fluid Mineral (Oil &amp; Gas) Decisions in MZ IV by Habitat Management Area Type</b>						
<b>Fluid Mineral (Oil &amp; Gas) Decisions</b>	<b>No Action</b>					
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	1,924,000	1,136,000	1,136,000	4,000	9,542,000	<b>13,523,000</b>
Open NSO	10,245,000	436,000	436,000	0	1,164,000	<b>14,493,000</b>
Open CSU/TL	18,000	4,947,000	4,947,000	0	2,266,000	<b>7,230,000</b>
Open Standard Stipulations	1,000	3,000	3,000	704,000	4,729,000	<b>5,437,000</b>
<b>Total</b>	<b>12,187,000</b>	<b>6,522,000</b>	<b>6,522,000</b>	<b>708,000</b>	<b>17,701,000</b>	<b>40,683,000</b>

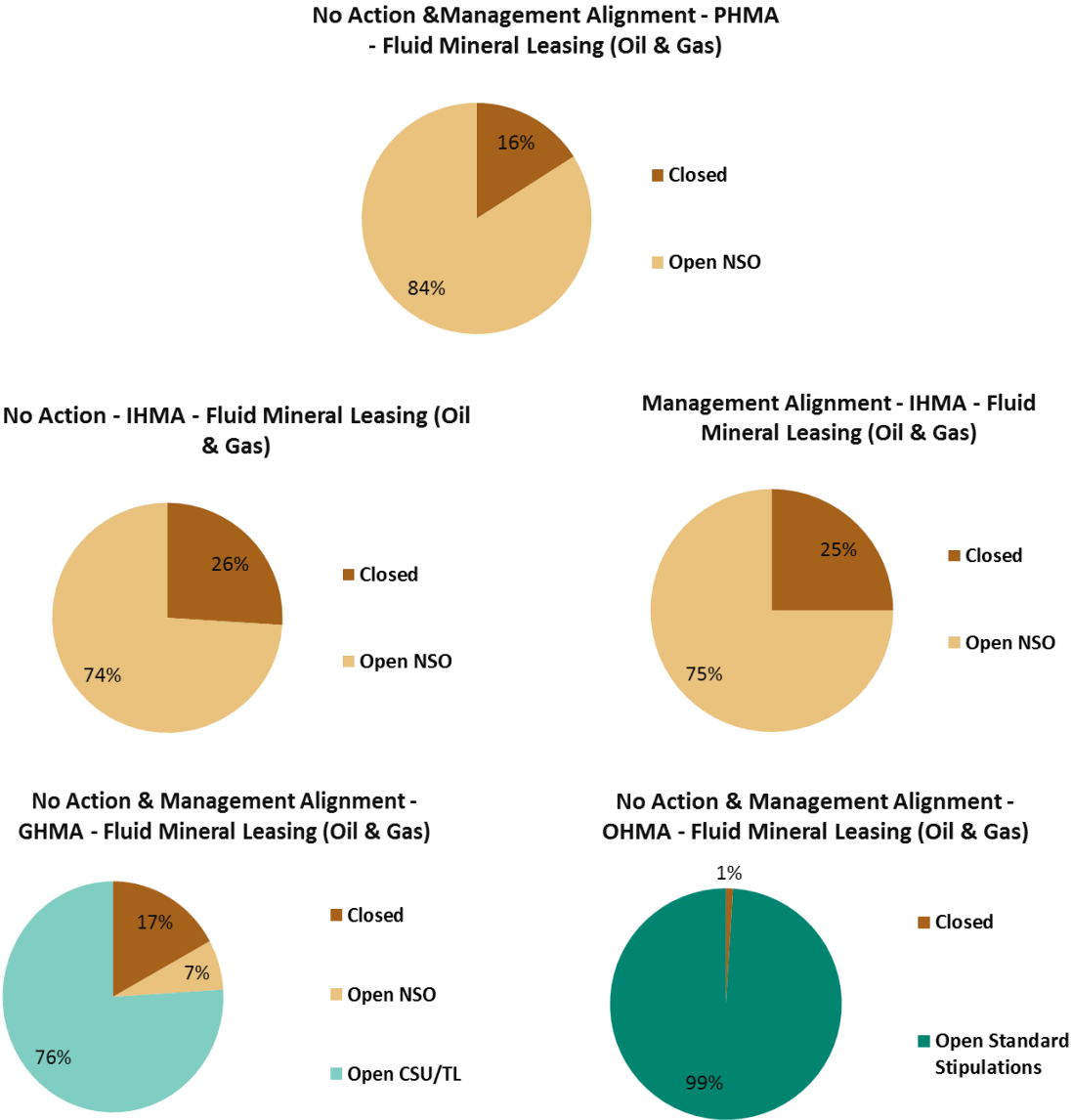
<b>Fluid Mineral (Oil &amp; Gas) Decisions</b>	<b>Management Alignment</b>					
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	1,917,000	917,000	1,138,000	6,000	9,541,000	<b>13,520,000</b>
Open NSO	9,846,000	2,712,000	436,000	0	1,176,000	<b>14,171,000</b>
Open CSU/TL	17,000	0	5,039,000	0	2,266,000	<b>7,322,000</b>
Open Standard Stipulations	1,000	0	3,000	616,000	5,043,000	<b>5,663,000</b>
<b>Total</b>	<b>11,782,000</b>	<b>3,629,000</b>	<b>6,616,000</b>	<b>622,000</b>	<b>18,027,000</b>	<b>40,676,000</b>

<b>Approximate % of Habitat Management Area by Fluid Mineral (Oil &amp; Gas) Decision in MZ IV</b>						
<b>Fluid Mineral (Oil &amp; Gas) Decisions</b>	<b>No Action</b>					
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	16%	26%	17%	1%	54%	<b>33%</b>
Open NSO	84%	74%	7%	0%	7%	<b>36%</b>
Open CSU/TL	<1%	0%	76%	0%	13%	<b>18%</b>
Open Standard Stipulations	<1%	0%	<1%	99%	27%	<b>13%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

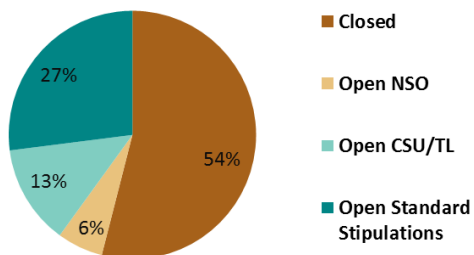
  

<b>Fluid Mineral (Oil &amp; Gas) Decisions</b>	<b>Management Alignment</b>					
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	16%	25%	17%	1%	53%	<b>33%</b>
Open NSO	84%	75%	7%	0%	7%	<b>35%</b>
Open CSU/TL	<1%	0%	76%	0%	13%	<b>18%</b>
Open Standard Stipulations	<1%	0%	<1%	99%	28%	<b>14%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

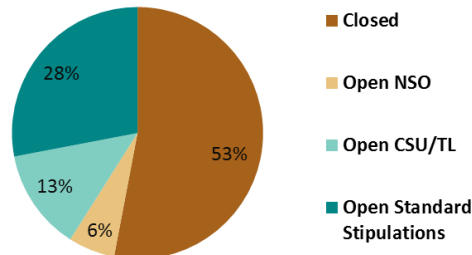


**Figure 44 – Fluid Mineral (Oil & Gas) Decisions within MZ IV**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

No Action - Non-HMA - Fluid Mineral Leasing  
(Oil & Gas)

Management Alignment - Non-HMA - Fluid Mineral Leasing (Oil &amp; Gas)

**Figure 44 (cont'd) – Fluid Mineral (Oil & Gas) Decisions within MZ IV**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

## VIII. Rights-of-Ways

**Table 46 – Rights-of-Ways Decisions within MZ IV**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

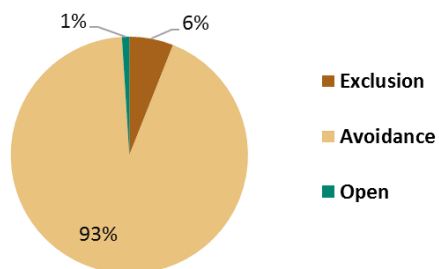
Approximate Acres of Rights-of-Ways Decisions in MZ IV by Habitat Management Area Type						
Rights-of-Ways	No Action					
	PHMA	IHMA	GHMA	OHMA	Non-HMA	Total
Exclusion	637,000	131,000	269,000	3,000	244,000	1,283,000
Avoidance	9,993,000	2,565,000	3,095,000	0	463,000	16,117,000
Open	98,000	24,000	1,827,000	705,000	4,381,000	7,035,000
Total	10,728,000	2,719,000	5,192,000	708,000	5,088,000	24,435,000

Rights-of-Ways	Management Alignment					
	PHMA	IHMA	GHMA	OHMA	Non-HMA	Total
Exclusion	631,000	131,000	272,000	6,000	245,000	1,285,000
Avoidance	9,623,000	2,626,000	3,204,000	0	475,000	15,928,000
Open	68,000	24,000	1,810,000	615,000	4,700,000	7,217,000
Total	10,322,000	2,780,000	5,286,000	621,000	5,420,000	24,429,000

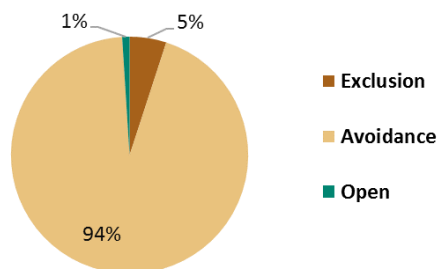
Approximate % of Habitat Management Area by Rights-of-Ways Decision in MZ IV						
Rights-of-Ways	No Action					
	PHMA	IHMA	GHMA	OHMA	Non-HMA	Total
Exclusion	6%	5%	5%	0%	5%	5%
Avoidance	93%	94%	60%	0%	9%	65%
Open	1%	1%	35%	100%	86%	29%
Total	100%	100%	100%	100%	100%	100%

Rights-of-Ways	Management Alignment					
	PHMA	IHMA	GHMA	OHMA	Non-HMA	Total
Exclusion	6%	5%	5%	1%	4%	5%
Avoidance	93%	94%	61%	0%	9%	65%
Open	1%	1%	34%	99%	87%	30%
Total	100%	100%	100%	100%	100%	100%

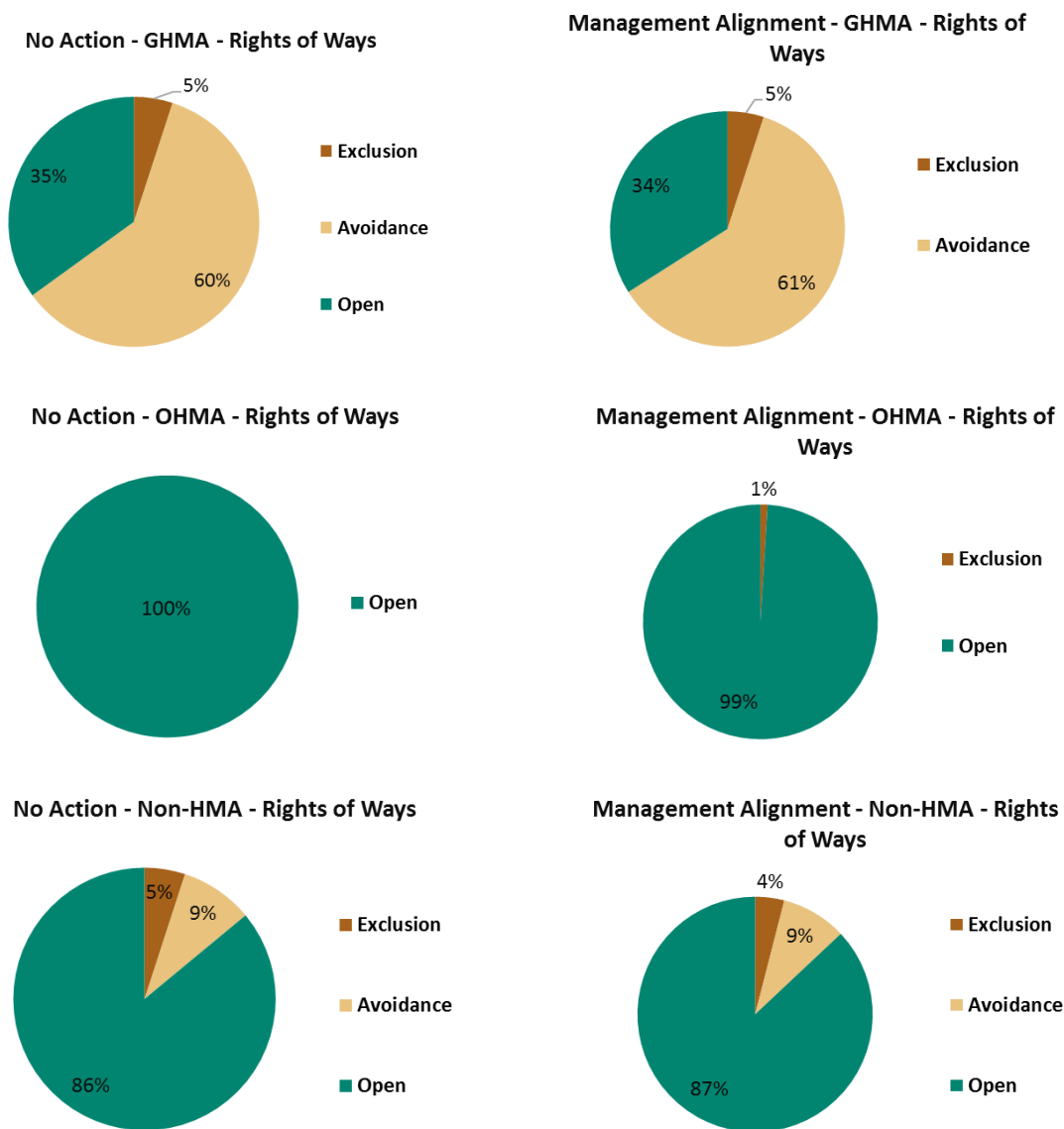
No Action & Management Alignment -  
PHMA - Rights of Ways



No Action & Management Alignment - IHMA  
- Rights of Ways

**Figure 45 – Rights-of-Ways Decisions within MZ IV**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.



**Figure 45 (cont'd) – Rights-of-Ways Decisions within MZ IV**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

**IX. Salable Minerals Materials****Table 47 – Salable Minerals Materials Decisions within MZ IV**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

<b>Approximate Acres of Salable Minerals Materials Decisions in MZ IV by Habitat Management Area Type</b>						
<b>Salable Minerals Materials</b>	<b>No Action</b>					
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	11,494,000	313,000	682,000	4,000	830,000	<b>13,323,000</b>
Open	4,000	2,878,000	5,250,000	704,000	5,504,000	<b>14,339,000</b>
<b>Total</b>	<b>11,497,000</b>	<b>3,191,000</b>	<b>5,932,000</b>	<b>708,000</b>	<b>6,334,000</b>	<b>27,662,000</b>

<b>Salable Minerals Materials</b>	<b>Management Alignment</b>					
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	11,089,000	313,000	684,000	6,000	829,000	<b>12,922,000</b>
Open	4,000	2,942,000	5,343,000	616,000	5,830,000	<b>14,734,000</b>
<b>Total</b>	<b>11,093,000</b>	<b>3,255,000</b>	<b>6,027,000</b>	<b>622,000</b>	<b>6,659,000</b>	<b>27,656,000</b>

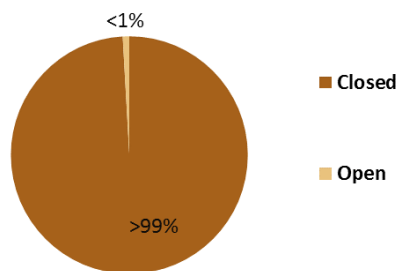
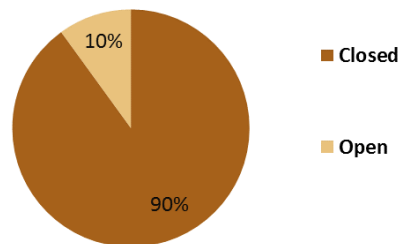
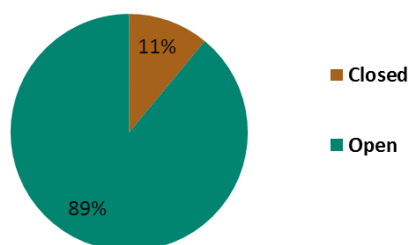
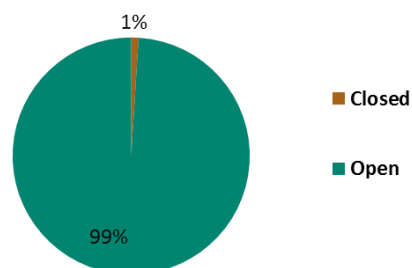
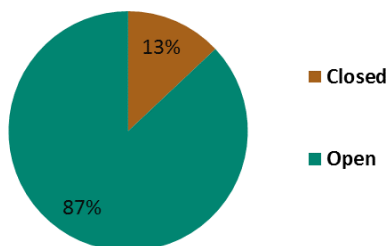
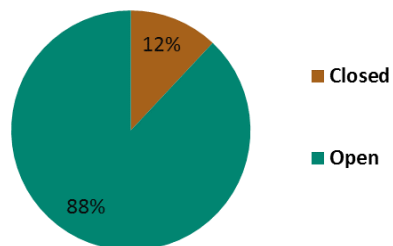
  

<b>Approximate % of Habitat Management Area by Non-Energy Leasable Minerals Decision in MZ IV</b>						
<b>Salable Minerals Materials</b>	<b>No Action</b>					
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	100%	10%	11%	1%	13%	<b>48%</b>
Open	<1%	90%	89%	99%	87%	<b>52%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

<b>Salable Minerals Materials</b>	<b>Management Alignment</b>					
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	100%	10%	11%	1%	12%	<b>47%</b>
Open	<1%	90%	89%	99%	88%	<b>53%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>



No Action & Management Alignment -  
PHMA - Salable Minerals MaterialsNo Action & Management Alignment - IHMA  
- Salable Minerals MaterialsNo Action & Management Alignment -  
GHMA - Salable Minerals MaterialsNo Action & Management Alignment -  
OHMA - Salable Minerals MaterialsNo Action - Non-HMA - Salable Minerals  
MaterialsManagement Alignment - Non-HMA -  
Salable Minerals Materials**Figure 46 – Salable Minerals Materials Decisions within MZ IV**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

## X. Solar Energy

**Table 48 – Solar Energy Decisions within MZ IV**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

Approximate Acres of Solar Energy Decisions in MZ IV by Habitat Management Area Type						
Solar Energy	No Action					
	PHMA	IHMA	GHMA	OHMA	Non-HMA	Total
Exclusion	9,341,000	363,000	1,210,000	706,000	2,275,000	13,895,000
Avoidance	1,390,000	2,357,000	2,235,000	0	123,000	6,105,000
Open	0	0	1,500,000	1,000	2,521,000	4,022,000
<b>Total</b>	<b>10,731,000</b>	<b>2,719,000</b>	<b>4,945,000</b>	<b>707,000</b>	<b>4,919,000</b>	<b>24,021,000</b>

Solar Energy	Management Alignment					
	PHMA	IHMA	GHMA	OHMA	Non-HMA	Total
Exclusion	8,937,000	363,000	1,304,000	622,000	2,605,000	13,831,000
Avoidance	1,390,000	2,417,000	2,235,000	0	123,000	6,165,000
Open	0	0	1,500,000	0	2,520,000	4,020,000
<b>Total</b>	<b>10,326,000</b>	<b>2,780,000</b>	<b>5,039,000</b>	<b>622,000</b>	<b>5,248,000</b>	<b>24,015,000</b>

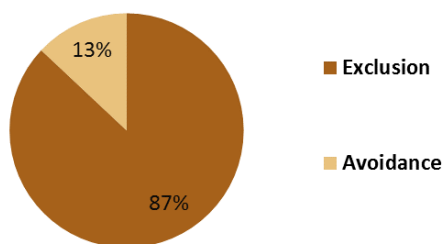
  

Approximate % of Habitat Management Area by Solar Energy Decision in MZ IV						
Solar Energy	No Action					
	PHMA	IHMA	GHMA	OHMA	Non-HMA	Total
Exclusion	87%	13%	24%	100%	46%	58%
Avoidance	13%	87%	45%	0%	3%	25%
Open	0%	0%	30%	0%	51%	17%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

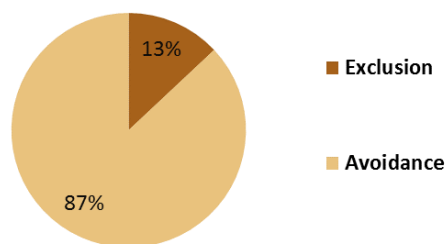
  

Solar Energy	Management Alignment					
	PHMA	IHMA	GHMA	OHMA	Non-HMA	Total
Exclusion	87%	13%	26%	100%	50%	58%
Avoidance	13%	87%	44%	0%	2%	26%
Open	0%	0%	30%	0%	48%	17%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

No Action & Management Alignment -  
PHMA - Solar Energy

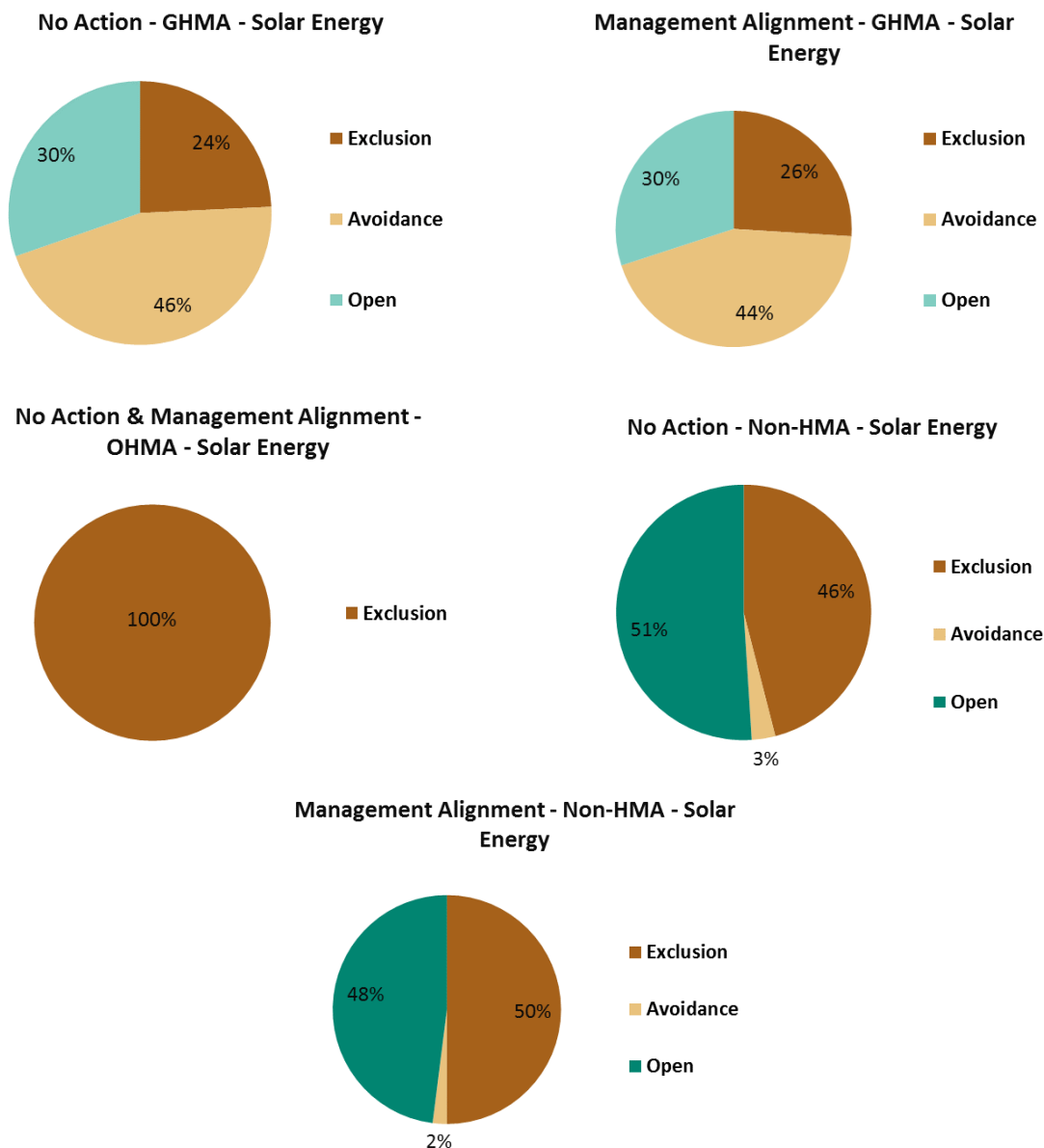


No Action & Management Alignment -  
IHMA - Solar Energy



**Figure 47 – Solar Energy Decisions within MZ IV**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.



**Figure 47 (cont'd) – Solar Energy Decisions within MZ IV**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

**XI. Trails and Travel Management****Table 49 — Trails and Travel Management Decisions within MZ IV**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

<b>Approximate Acres of Trails and Travel Management Decisions in MZ IV by Habitat Management Area Type</b>						
<b>Trails and Travel Management Decisions</b>	<b>No Action</b>					
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	560,000	83,000	85,000	1,000	215,000	<b>943,000</b>
Limited	10,169,000	2,633,000	4,866,000	1,000	3,101,000	<b>20,770,000</b>
Open	0	3,000	0	707,000	1,619,000	<b>2,329,000</b>
<b>Total</b>	<b>10,729,000</b>	<b>2,719,000</b>	<b>4,951,000</b>	<b>708,000</b>	<b>4,935,000</b>	<b>24,042,000</b>

<b>Trails and Travel Management Decisions</b>	<b>Management Alignment</b>					
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	559,000	83,000	84,000	0	214,000	<b>940,000</b>
Limited	9,768,000	2,694,000	4,961,000	5,000	3,188,000	<b>20,617,000</b>
Open	0	3,000	0	617,000	1,859,000	<b>2,479,000</b>
<b>Total</b>	<b>10,327,000</b>	<b>2,780,000</b>	<b>5,046,000</b>	<b>622,000</b>	<b>5,261,000</b>	<b>24,036,000</b>

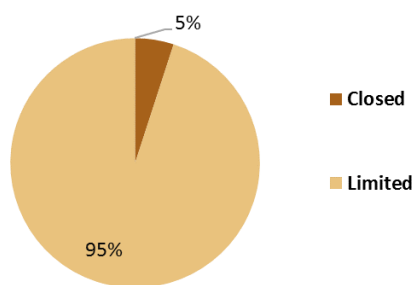
  

<b>Approximate % of Habitat Management Area by Trails and Travel Management Decisions Decision in MZ IV</b>						
<b>Trails and Travel Management Decisions</b>	<b>No Action</b>					
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	5%	3%	2%	<1%	4%	<b>4%</b>
Limited	95%	97%	98%	<1%	63%	<b>86%</b>
Open	0%	<1%	0%	100%	33%	<b>10%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

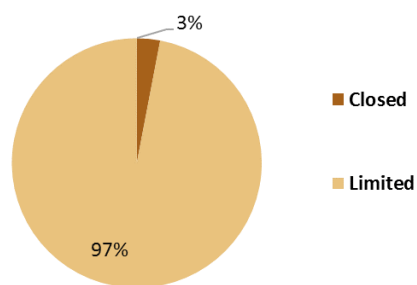
  

<b>Trails and Travel Management Decisions</b>	<b>Management Alignment</b>					
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	5%	3%	2%	0%	4%	<b>4%</b>
Limited	95%	97%	98%	1%	61%	<b>86%</b>
Open	0%	0%	0%	99%	35%	<b>10%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

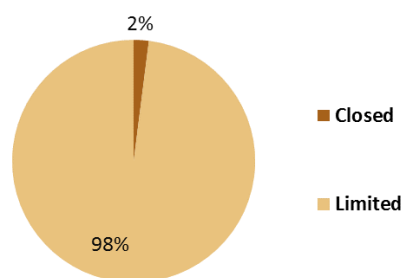
No Action &amp; Management Alignment - PHMA - Trails and Travel Management



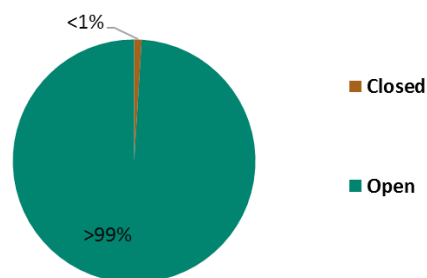
No Action &amp; Management Alignment - IHMA - Trails and Travel Management



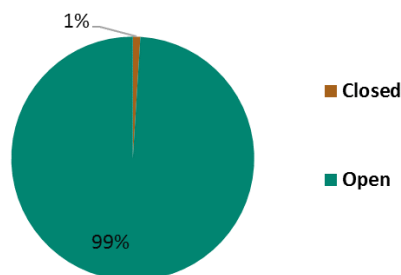
No Action &amp; Management Alignment - GHMA - Trails and Travel Management



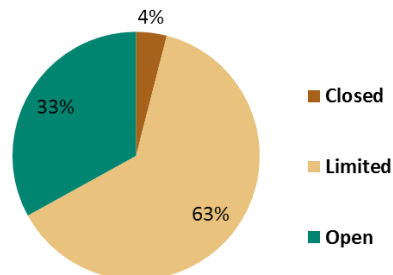
No Action - OHMA - Trails and Travel Management



Management Alignment - OHMA - Trails and Travel Management

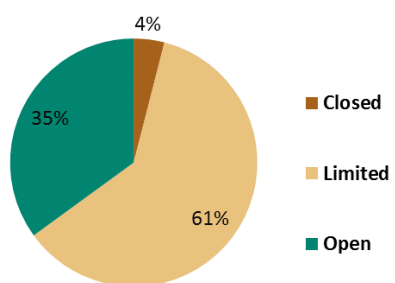


No Action - Non-HMA - Trails and Travel Management

**Figure 48 – Trails and Travel Management Decisions within MZ IV**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

Management Alignment- Non-HMA - Trails  
and Travel Management



**Figure 48 (cont'd) – Trails and Travel Management Decisions within MZ IV**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

**XII. Wind Energy****Table 50 – Wind Energy Decisions within MZ IV**

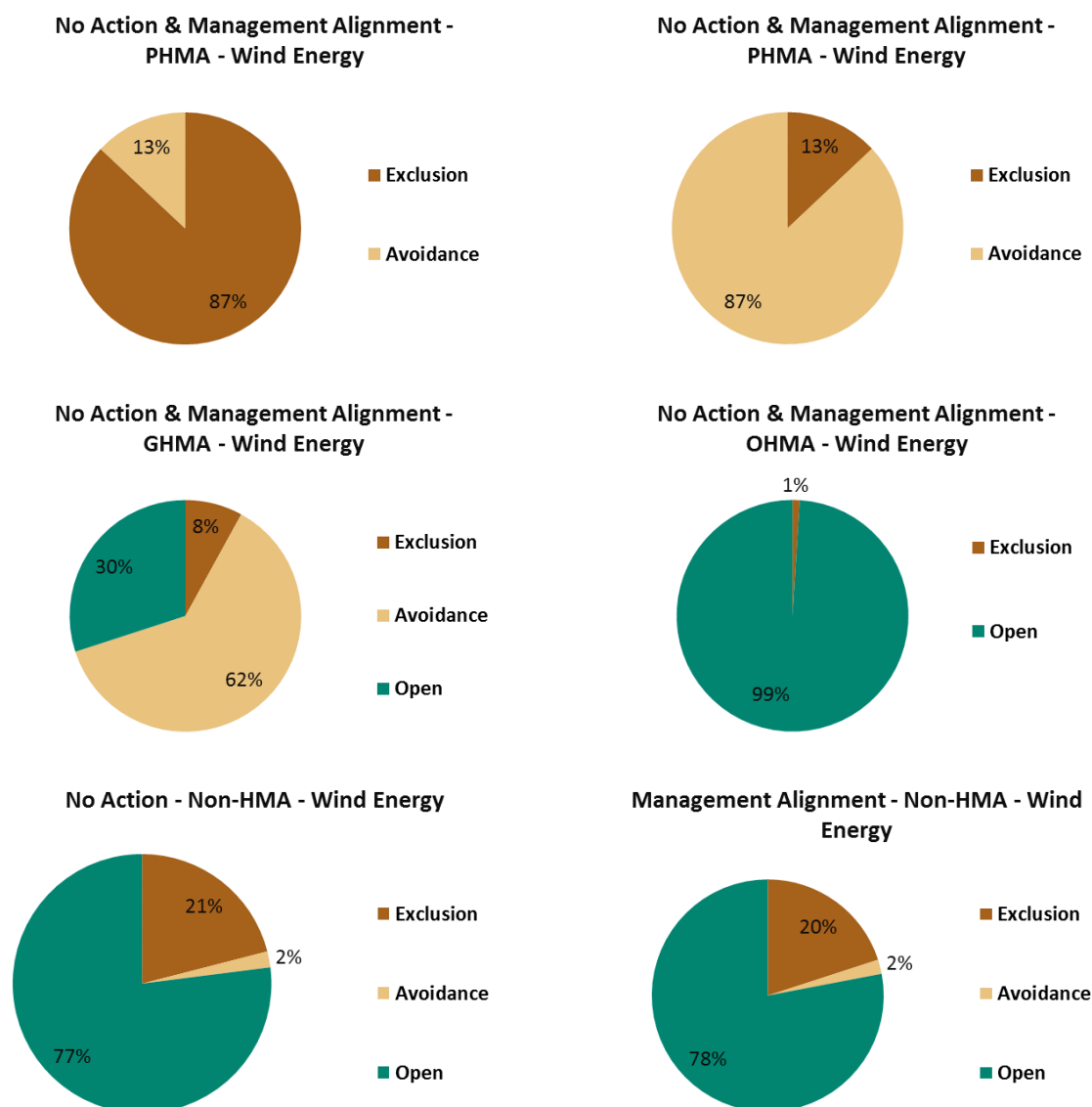
Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

<b>Approximate Acres of Wind Energy Decisions in MZ IV by Habitat Management Area Type</b>						
<b>Wind Energy</b>	<b>No Action</b>					
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Exclusion	9,339,000	363,000	392,000	4,000	1,035,000	<b>11,133,000</b>
Avoidance	1,390,000	2,357,000	3,051,000	0	123,000	<b>6,920,000</b>
Open	0	0	1,501,000	704,000	3,769,000	<b>5,973,000</b>
<b>Total</b>	<b>10,728,000</b>	<b>2,719,000</b>	<b>4,944,000</b>	<b>708,000</b>	<b>4,926,000</b>	<b>24,026,000</b>

<b>Wind Energy</b>	<b>Management Alignment</b>					
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Exclusion	8,938,000	363,000	395,000	6,000	1,046,000	<b>10,748,000</b>
Avoidance	1,390,000	2,417,000	3,144,000	0	123,000	<b>7,073,000</b>
Open	0	0	1,501,000	616,000	4,083,000	<b>6,199,000</b>
<b>Total</b>	<b>10,327,000</b>	<b>2,780,000</b>	<b>5,039,000</b>	<b>622,000</b>	<b>5,252,000</b>	<b>24,020,000</b>

<b>Approximate % of Habitat Management Area by Wind Energy Decision in MZ IV</b>						
<b>Wind Energy</b>	<b>No Action</b>					
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Exclusion	87%	13%	8%	1%	21%	<b>46%</b>
Avoidance	13%	87%	62%	0%	2%	<b>29%</b>
Open	0%	0%	30%	99%	77%	<b>25%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

<b>Wind Energy</b>	<b>Management Alignment</b>					
	<b>PHMA</b>	<b>IHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Exclusion	87%	13%	8%	1%	20%	<b>45%</b>
Avoidance	13%	87%	62%	0%	2%	<b>29%</b>
Open	0%	0%	30%	99%	78%	<b>26%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>



**Figure 49 – Wind Energy Decisions within MZ IV**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.



### S-2.2.5 Management Zone V – OR, NV, CA

#### I. Habitat Management

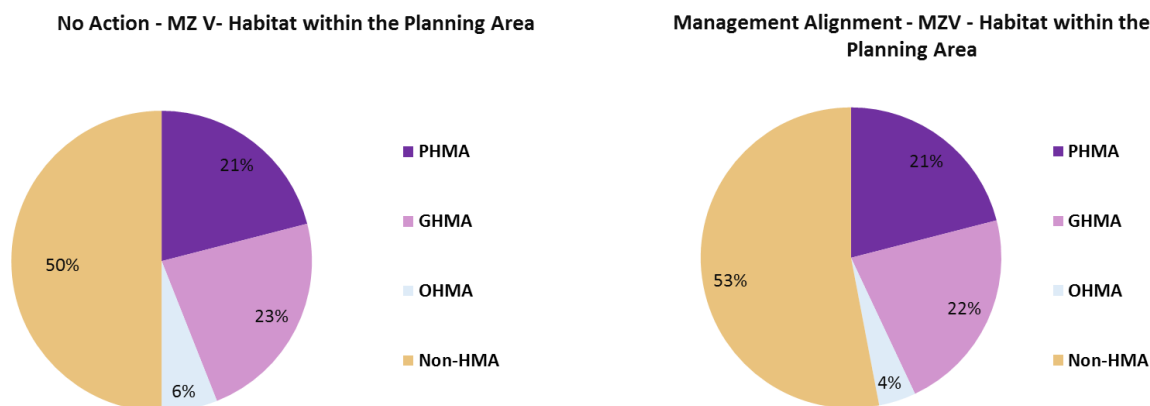
**Table 51 – Habitat Management Areas within MZ V**

Acres and percentages reflect all lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

Approximate Acres of HMA in MZ V							
No Action				Management Alignment			
PHMA	GHMA	OHMA	Non-HMA	PHMA	GHMA	OHMA	Non-HMA
6,510,000	7,323,000	1,932,000	15,519,000	6,567,000	6,846,000	1,142,000	16,727,000

Approximate Percent of MZ I that is HMA							
No Action				Management Alignment			
PHMA	GHMA	OHMA	Non-HMA	PHMA	GHMA	OHMA	Non-HMA
21%	23%	6%	50%	21%	22%	4%	53%



**Figure 50 – Habitat Management Areas within MZ V**

Percentages reflect all lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

## II. Geothermal Energy

**Table 52 – Geothermal Energy Decisions within MZ V**

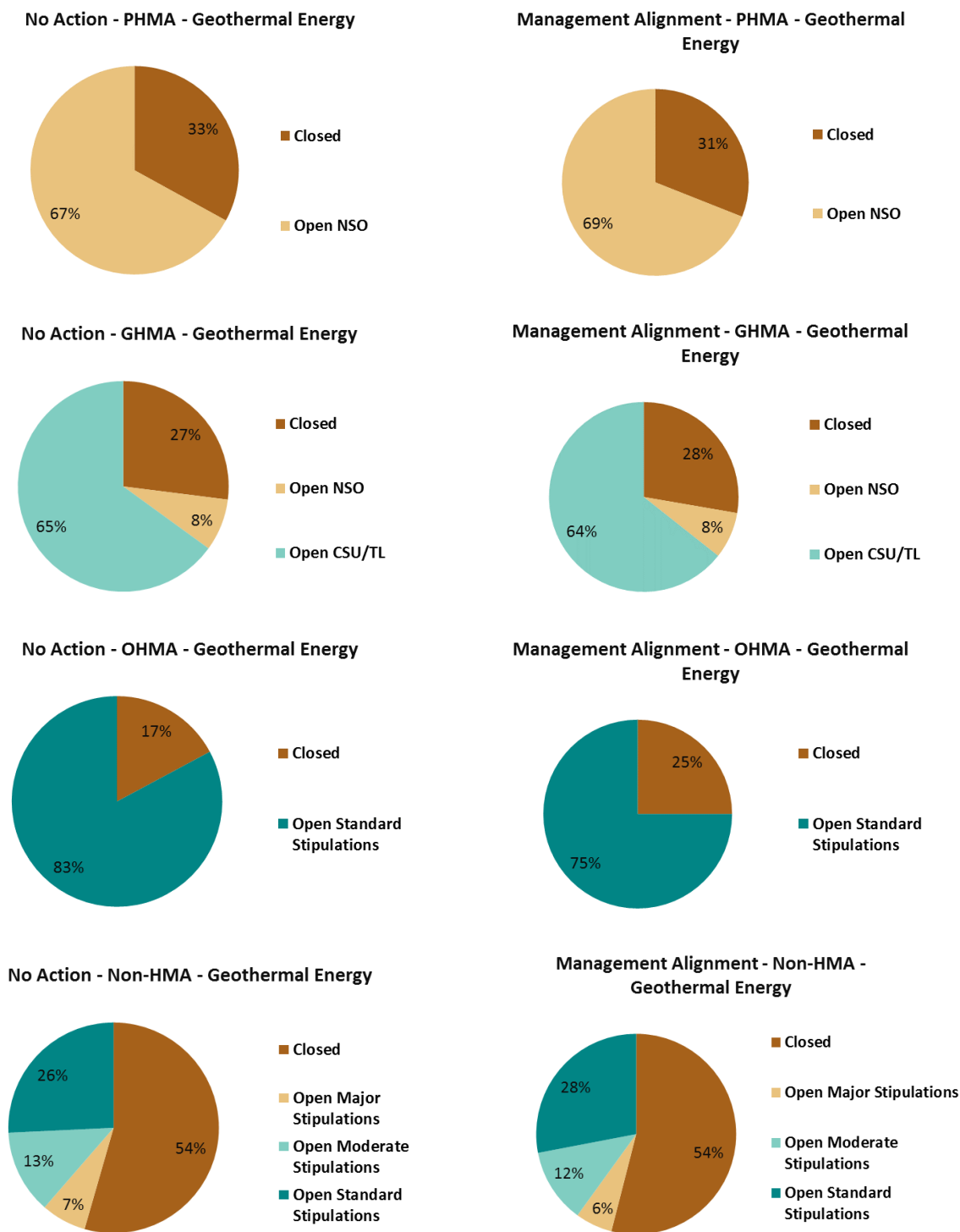
Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

Approximate Acres of Geothermal Energy Decisions in MZ V by Habitat Management Area Type					
Geothermal Energy	No Action				
	PHMA	GHMA	OHMA	Non-HMA	Total
Closed	1,626,000	1,359,000	158,000	898,000	4,042,000
Open NSO	3,350,000	379,000	0	164,000	3,893,000
Open CSU/TL	0	3,287,000	0	335,000	3,622,000
Open Standard Stipulations	5,000	0	744,000	2,367,000	3,117,000
<b>Total</b>	<b>4,982,000</b>	<b>5,026,000</b>	<b>903,000</b>	<b>3,764,000</b>	<b>14,674,000</b>

Geothermal Energy	Management Alignment				
	PHMA	GHMA	OHMA	Non-HMA	Total
Closed	1,569,000	1,373,000	141,000	935,000	4,018,000
Open NSO	3,566,000	379,000	0	164,000	4,110,000
Open CSU/TL	0	3,185,000	0	335,000	3,520,000
Open Standard Stipulations	0	0	423,000	2,598,000	3,021,000
<b>Total</b>	<b>5,136,000</b>	<b>4,937,000</b>	<b>564,000</b>	<b>4,032,000</b>	<b>14,668,000</b>

Approximate % of Habitat Management Area by Geothermal Energy Decision in MZ V					
Geothermal Energy	No Action				
	PHMA	GHMA	OHMA	Non-HMA	Total
Closed	33%	27%	17%	24%	28%
Open NSO	67%	8%	0%	4%	27%
Open CSU/TL	0%	65%	0%	9%	25%
Open Standard Stipulations	<1%	0%	82%	63%	21%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Geothermal Energy	Management Alignment				
	PHMA	GHMA	OHMA	Non-HMA	Total
Closed	31%	28%	25%	23%	27%
Open NSO	69%	8%	0%	4%	28%
Open CSU/TL	0%	65%	0%	8%	24%
Open Standard Stipulations	0%	0%	75%	64%	21%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>



**Figure 51 – Geothermal Energy Decisions within MZ V**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

### III. Land Tenure

**Table 53 – Land Tenure Decisions within MZ V**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

Approximate Acres of Land Tenure Decisions in MZ V by Habitat Management Area Type					
Land Tenure	No Action				
	PHMA	GHMA	OHMA	Non-HMA	Total
Disposal	0	0	79,000	521,000	600,000
Retention	4,649,000	4,896,000	822,000	3,044,000	13,410,000
<b>Total</b>	<b>4,649,000</b>	<b>4,896,000</b>	<b>901,000</b>	<b>3,565,000</b>	<b>14,011,000</b>

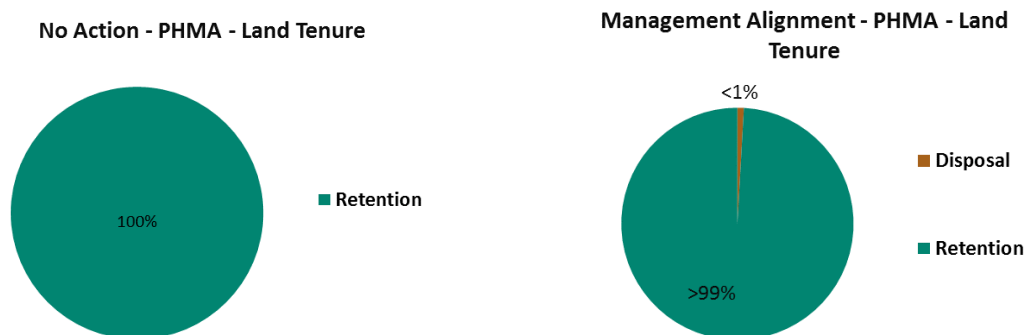
Land Tenure	Management Alignment				
	PHMA	GHMA	OHMA	Non-HMA	Total
Disposal	2,000	19,000	32,000	592,000	644,000
Retention	4,802,000	4,787,000	530,000	3,241,000	13,360,000
<b>Total</b>	<b>4,804,000</b>	<b>4,806,000</b>	<b>562,000</b>	<b>3,833,000</b>	<b>14,005,000</b>

Approximate % of Habitat Management Area by Land Tenure Decision in MZ III					
Land Tenure	No Action				
	PHMA	GHMA	OHMA	Non-HMA	Total
Disposal	0%	0%	9%	15%	4%
Retention	100%	100%	91%	85%	96%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

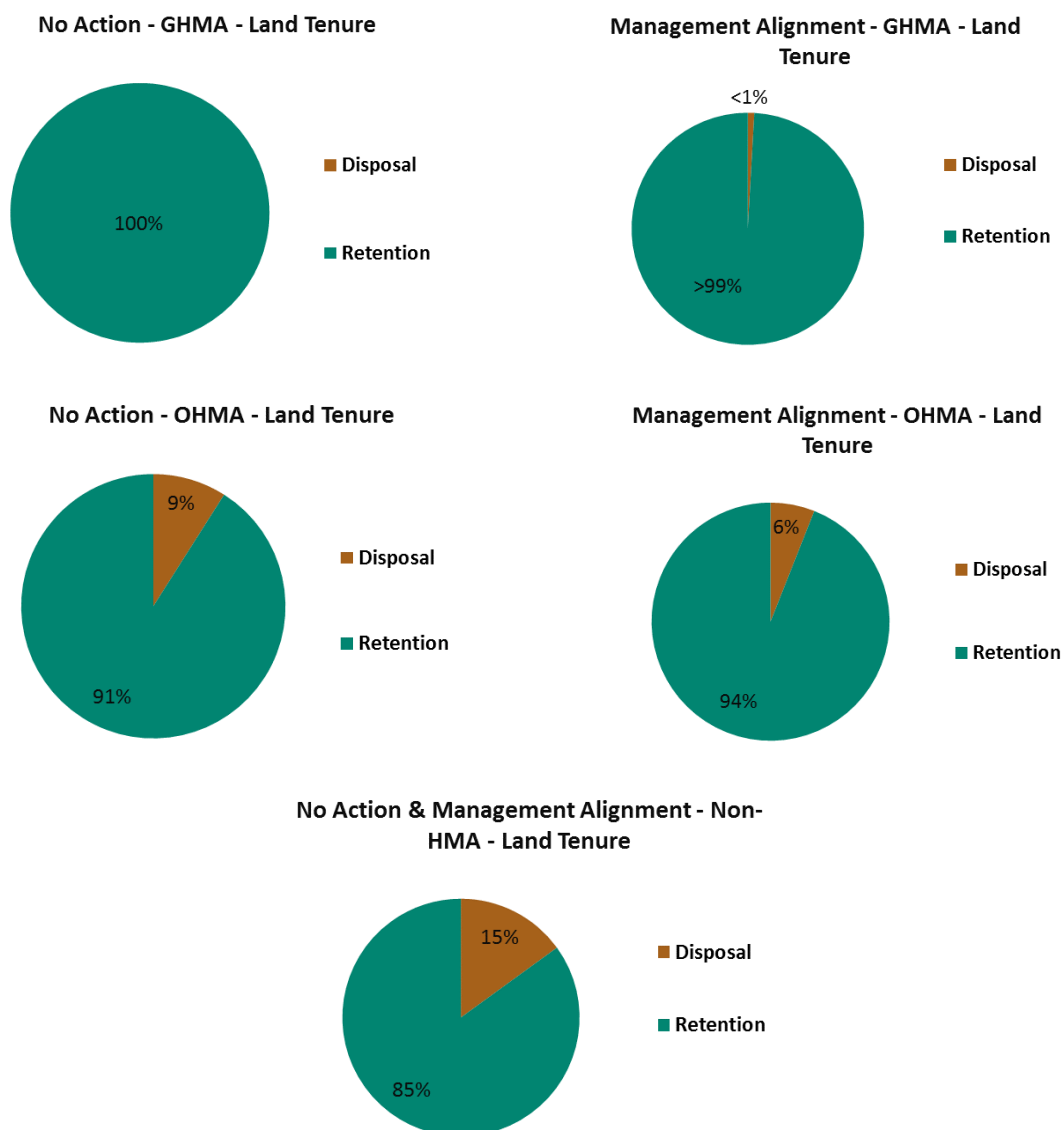
  

Land Tenure	Management Alignment				
	PHMA	GHMA	OHMA	Non-HMA	Total
Disposal	<1%	<1%	6%	15%	5%
Retention	100%	100%	94%	85%	95%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>



**Figure 52 – Land Tenure Decisions within MZ V**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.



**Figure 52 (cont'd) – Land Tenure Decisions within MZ V**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

#### IV. Livestock Grazing

**Table 54 – Livestock Grazing Decisions within MZ V**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

<b>Approximate Acres of Livestock Grazing Decisions in MZ V by Habitat Management Area Type</b>					
<b>Livestock Grazing</b>	<b>No Action</b>				
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Unavailable	47,000	102,000	0	84,000	<b>232,000</b>
Available	4,582,000	4,762,000	883,000	3,233,000	<b>13,461,000</b>
<b>Total</b>	<b>4,629,000</b>	<b>4,864,000</b>	<b>883,000</b>	<b>3,317,000</b>	<b>13,694,000</b>

<b>Livestock Grazing</b>	<b>Management Alignment</b>				
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Unavailable	47,000	102,000	0	84,000	<b>232,000</b>
Available	4,736,000	4,671,000	550,000	3,493,000	<b>13,450,000</b>
<b>Total</b>	<b>4,783,000</b>	<b>4,772,000</b>	<b>550,000</b>	<b>3,577,000</b>	<b>13,682,000</b>

<b>Approximate % of Habitat Management Area by Livestock Grazing Decision in MZ V</b>					
<b>Livestock Grazing</b>	<b>No Action</b>				
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Unavailable	1%	2%	0%	3%	<b>2%</b>
Available	99%	98%	100%	97%	<b>98%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

<b>Livestock Grazing</b>	<b>Management Alignment</b>				
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Unavailable	1%	2%	0%	2%	<b>2%</b>
Available	99%	98%	100%	98%	<b>98%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>



**Figure 53 – Livestock Grazing Decisions within MZ V**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

## V. Locatable Minerals

**Table 55 – Locatable Minerals Decisions within MZ V**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

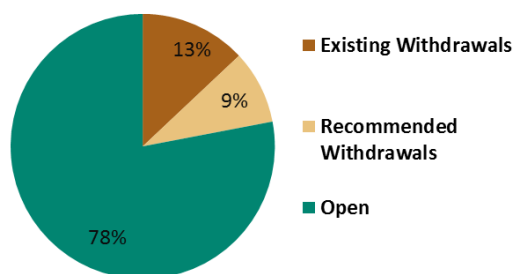
Approximate Acres of Locatable Minerals Decisions in MZ V by Habitat Management Area Type					
Locatable Minerals	No Action				
	PHMA	GHMA	OHMA	Non-HMA	Total
Existing Withdrawals	631,000	687,000	59,000	486,000	1,864,000
Recommended Withdrawals	435,000	5,000	0	0	440,000
Open	3,885,000	4,329,000	842,000	3,048,000	12,104,000
<b>Total</b>	<b>4,951,000</b>	<b>5,022,000</b>	<b>901,000</b>	<b>3,534,000</b>	<b>14,408,000</b>

Locatable Minerals	Management Alignment				
	PHMA	GHMA	OHMA	Non-HMA	Total
Existing Withdrawals	626,000	687,000	64,000	487,000	1,864,000
Recommended Withdrawals	12,000	5,000	0	0	17,000
Open	4,469,000	4,240,000	499,000	3,314,000	12,522,000
<b>Total</b>	<b>5,106,000</b>	<b>4,932,000</b>	<b>562,000</b>	<b>3,801,000</b>	<b>14,403,000</b>

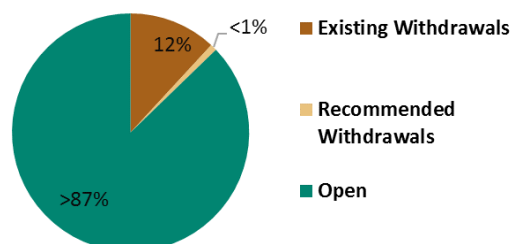
Approximate % of Habitat Management Area by Geothermal Energy Decision in MZ V					
Locatable Minerals	No Action				
	PHMA	GHMA	OHMA	Non-HMA	Total
Existing Withdrawals	13%	14%	7%	14%	13%
Recommended Withdrawals	9%	0%	0%	0%	3%
Open	78%	86%	93%	86%	84%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Locatable Minerals	Management Alignment				
	PHMA	GHMA	OHMA	Non-HMA	Total
Existing Withdrawals	12%	14%	11%	13%	13%
Recommended Withdrawals	0%	0%	0%	0%	0%
Open	88%	86%	89%	87%	87%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

No Action - PHMA - Locatable Minerals



Management Alignment - PHMA - Locatable Minerals



**Figure 54 – Locatable Minerals Decisions within MZ V**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.





**Figure 54 (cont'd) – Locatable Minerals Decisions within MZ V**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

**VI. Non-Energy Leasable Minerals****Table 56 – Non-Energy Leasable Minerals Decisions within MZ V**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

<b>Approximate Acres of Non-Energy Leasable Minerals Decisions in MZ V by Habitat Management Area Type</b>					
<b>Non-Energy Leasable Minerals</b>	<b>No Action</b>				
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	4,980,000	1,388,000	158,000	898,000	<b>7,423,000</b>
Open	0	3,635,000	744,000	2,866,000	<b>7,247,000</b>
<b>Total</b>	<b>4,980,000</b>	<b>5,024,000</b>	<b>903,000</b>	<b>3,764,000</b>	<b>14,671,000</b>

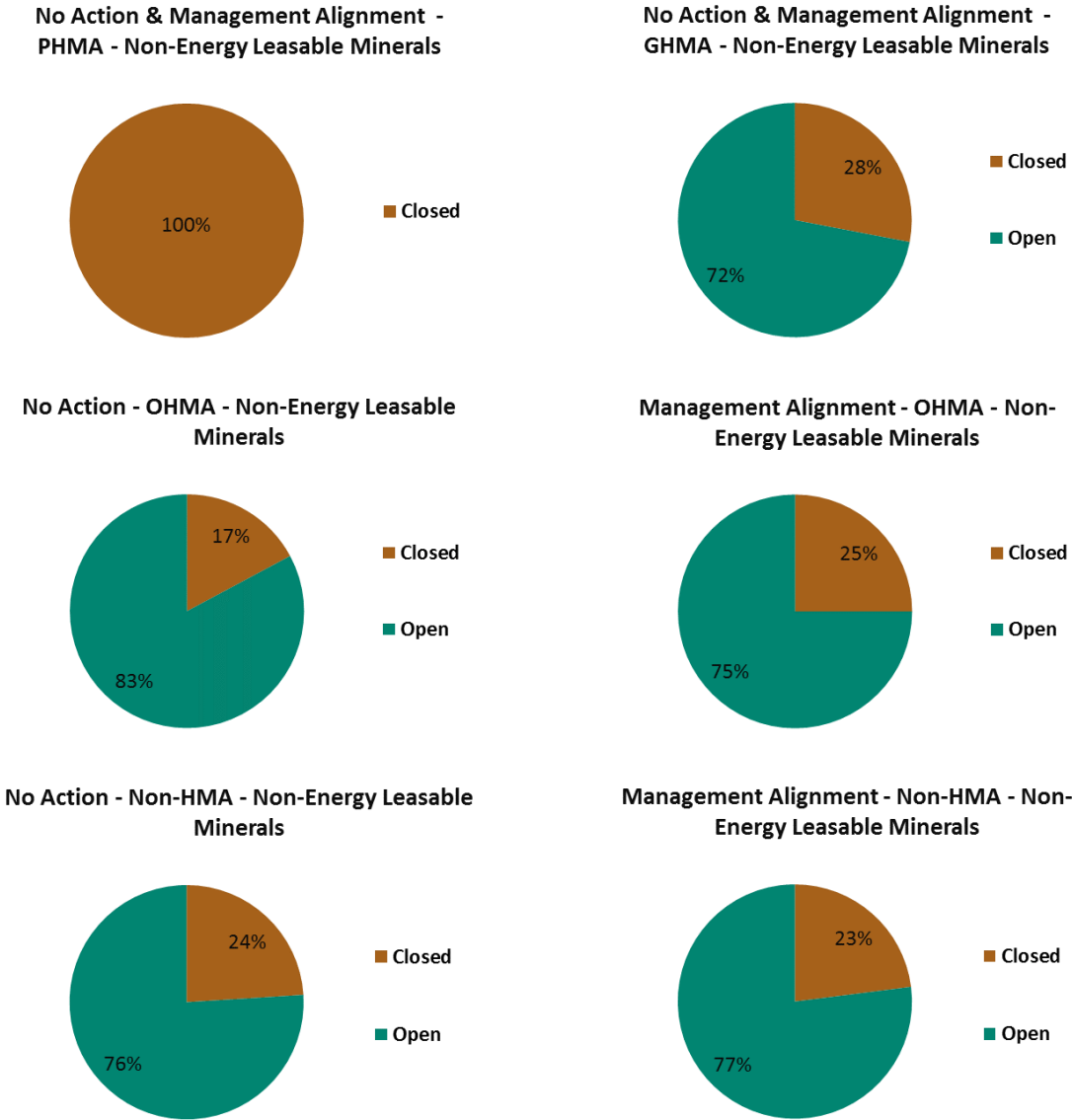
<b>Non-Energy Leasable Minerals</b>	<b>Management Alignment</b>				
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	5,135,000	1,402,000	141,000	935,000	<b>7,613,000</b>
Open	0	3,532,000	423,000	3,097,000	<b>7,052,000</b>
<b>Total</b>	<b>5,135,000</b>	<b>4,934,000</b>	<b>564,000</b>	<b>4,032,000</b>	<b>14,665,000</b>

<b>Approximate % of Habitat Management Area by Non-Energy Leasable Minerals Decision in MZ V</b>					
<b>Non-Energy Leasable Minerals</b>	<b>No Action</b>				
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	100%	28%	17%	24%	<b>51%</b>
Open	0%	72%	82%	76%	<b>49%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

<b>Non-Energy Leasable Minerals</b>	<b>Management Alignment</b>				
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	100%	28%	25%	23%	<b>52%</b>
Open	0%	72%	75%	77%	<b>48%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>



**Figure 55 – Non-Energy Leasable Minerals Decisions within MZ V**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

**VII. Fluid Minerals (Oil & Gas)****Table 57 – Fluid Mineral (Oil & Gas) Decisions within MZ V**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

<b>Approximate Acres of Fluid Mineral (Oil &amp; Gas) Decisions in MZ V by Habitat Management Area Type</b>					
<b>Fluid Mineral (Oil &amp; Gas) Decisions</b>	<b>No Action</b>				
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	1,590,000	1,373,000	141,000	935,000	<b>4,039,000</b>
Open NSO	3,542,000	379,000	0	164,000	<b>4,085,000</b>
Open CSU/TL	0	3,184,000	0	335,000	<b>3,519,000</b>
Open Standard Stipulations	0	0	423,000	2,598,000	<b>3,021,000</b>
<b>Total</b>	<b>5,133,000</b>	<b>4,936,000</b>	<b>564,000</b>	<b>4,032,000</b>	<b>14,664,000</b>

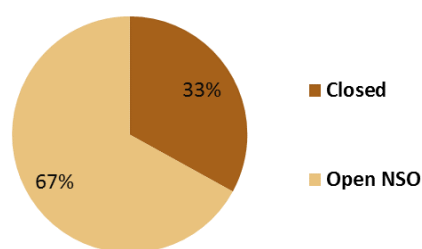
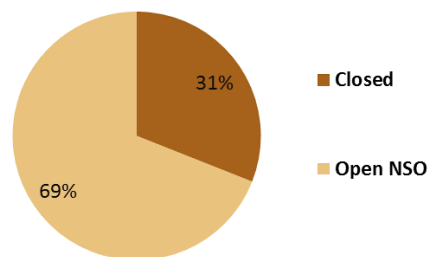
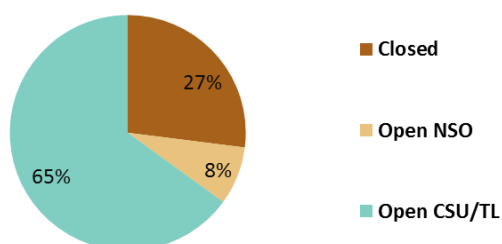
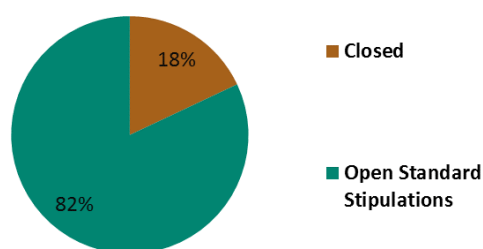
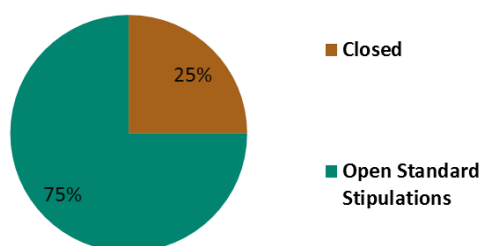
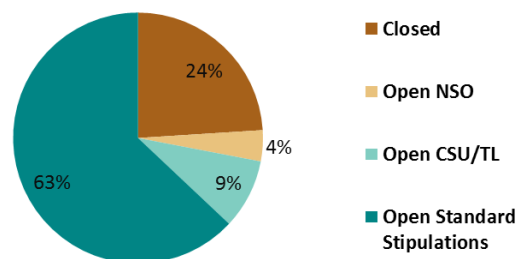
<b>Fluid Mineral (Oil &amp; Gas) Decisions</b>	<b>Management Alignment</b>				
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	1,626,000	1,359,000	158,000	898,000	<b>4,042,000</b>
Open NSO	3,354,000	379,000	0	164,000	<b>3,898,000</b>
Open CSU/TL	0	3,287,000	0	335,000	<b>3,622,000</b>
Open Standard Stipulations	0	0	743,000	2,365,000	<b>3,108,000</b>
<b>Total</b>	<b>4,981,000</b>	<b>5,026,000</b>	<b>902,000</b>	<b>3,762,000</b>	<b>14,670,000</b>

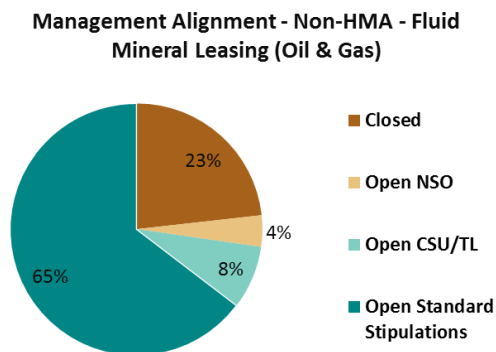
<b>Approximate % of Habitat Management Area by Fluid Mineral (Oil &amp; Gas) Decision in MZ V</b>					
<b>Fluid Mineral (Oil &amp; Gas) Decisions</b>	<b>No Action</b>				
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	33%	27%	18%	24%	<b>28%</b>
Open NSO	67%	8%	0%	4%	<b>27%</b>
Open CSU/TL	0%	65%	0%	9%	<b>25%</b>
Open Standard Stipulations	0%	0%	82%	63%	<b>21%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

<b>Fluid Mineral (Oil &amp; Gas) Decisions</b>	<b>Management Alignment</b>				
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	31%	28%	25%	23%	<b>28%</b>
Open NSO	69%	8%	0%	4%	<b>28%</b>
Open CSU/TL	0%	65%	0%	8%	<b>24%</b>
Open Standard Stipulations	0%	0%	75%	64%	<b>21%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

**No Action - PHMA - Fluid Mineral Leasing  
(Oil & Gas)****Management Alignment - PHMA - Fluid Mineral Leasing (Oil & Gas)****No Action & Management Alignment -  
GHMA - Fluid Mineral Leasing (Oil & Gas)****No Action - OHMA - Fluid Mineral Leasing  
(Oil & Gas)****Management Alignment - OHMA - Fluid Mineral Leasing (Oil & Gas)****No Action - Non-HMA - Fluid Mineral Leasing  
(Oil & Gas)****Figure 56 – Fluid Mineral (Oil & Gas) Decisions within MZ V**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.



**Figure 56 (cont'd) – Fluid Mineral (Oil & Gas) Decisions within MZ V**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

## VIII. Rights-of-Ways

**Table 58 – Rights-of-Ways Decisions within MZ V**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

<b>Approximate Acres of Rights-of-Ways Decisions in MZ V by Habitat Management Area Type</b>					
<b>Rights-of-Ways</b>	<b>No Action</b>				
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Exclusion	956,000	445,000	158,000	787,000	<b>2,347,000</b>
Avoidance	3,634,000	4,349,000	0	325,000	<b>8,307,000</b>
Open	87,000	106,000	744,000	2,449,000	<b>3,386,000</b>
<b>Total</b>	<b>4,677,000</b>	<b>4,900,000</b>	<b>902,000</b>	<b>3,561,000</b>	<b>14,040,000</b>

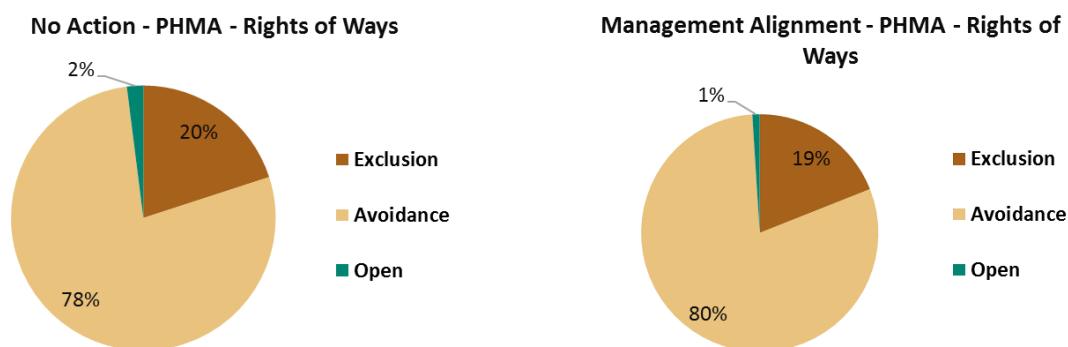
<b>Rights-of-Ways</b>	<b>Management Alignment</b>				
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Exclusion	922,000	459,000	141,000	824,000	<b>2,346,000</b>
Avoidance	3,854,000	4,281,000	0	325,000	<b>8,460,000</b>
Open	51,000	69,000	423,000	2,685,000	<b>3,228,000</b>
<b>Total</b>	<b>4,827,000</b>	<b>4,809,000</b>	<b>564,000</b>	<b>3,834,000</b>	<b>14,034,000</b>

<b>Approximate % of Habitat Management Area by Rights-of-Ways Decision in MZ V</b>					
<b>Rights-of-Ways</b>	<b>No Action</b>				
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Exclusion	78%	89%	0%	9%	<b>59%</b>
Avoidance	20%	9%	18%	22%	<b>17%</b>
Open	2%	2%	82%	69%	<b>24%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

<b>Rights-of-Ways</b>	<b>Management Alignment</b>				
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Exclusion	80%	89%	0%	8%	<b>60%</b>
Avoidance	19%	10%	25%	21%	<b>17%</b>
Open	1%	1%	75%	70%	<b>23%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

**Figure 57 – Rights-of-Ways Decisions within MZ V**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.



**Figure 57 (cont'd) – Rights-of-Ways Decisions within MZ V**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.



**IX. Salable Minerals Materials****Table 59 – Salable Minerals Materials Decisions within MZ V**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

<b>Approximate Acres of Salable Minerals Materials Decisions in MZ V by Habitat Management Area Type</b>					
<b>Salable Minerals Materials</b>	<b>No Action</b>				
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	4,980,000	1,402,000	158,000	935,000	<b>7,475,000</b>
Open	1,000	3,621,000	744,000	2,827,000	<b>7,194,000</b>
<b>Total</b>	<b>4,980,000</b>	<b>5,024,000</b>	<b>903,000</b>	<b>3,762,000</b>	<b>14,669,000</b>

<b>Salable Minerals Materials</b>	<b>Management Alignment</b>				
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	5,135,000	1,416,000	141,000	972,000	<b>7,664,000</b>
Open	0	3,518,000	423,000	3,057,000	<b>6,998,000</b>
<b>Total</b>	<b>5,135,000</b>	<b>4,934,000</b>	<b>564,000</b>	<b>4,030,000</b>	<b>14,663,000</b>

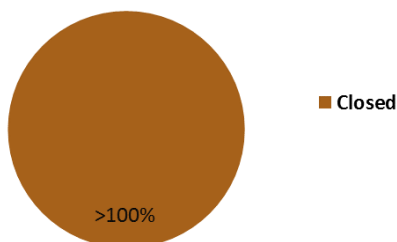
  

<b>Approximate % of Habitat Management Area by Non-Energy Leasable Minerals Decision in MZ V</b>					
<b>Salable Minerals Materials</b>	<b>No Action</b>				
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	100%	28%	17%	25%	<b>51%</b>
Open	<1%	72%	83%	75%	<b>49%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

<b>Salable Minerals Materials</b>	<b>Management Alignment</b>				
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	100%	29%	25%	24%	<b>52%</b>
Open	0%	71%	75%	76%	<b>48%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

No Action & Management Alignment -  
PHMA - Salable Minerals Materials

**Figure 58 – Salable Minerals Materials Decisions within MZ V**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.



**Figure 58 (cont'd) – Salable Minerals Materials Decisions within MZ V**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

## X. Solar Energy

**Table 60 – Solar Energy Decisions within MZ V**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

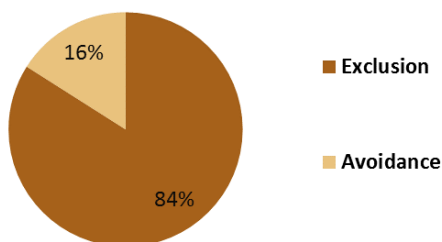
Approximate Acres of Solar Energy Decisions in MZ V by Habitat Management Area Type					
Solar Energy	No Action				
	PHMA	GHMA	OHMA	Non-HMA	Total
Exclusion	3,932,000	1,466,000	897,000	2,191,000	8,487,000
Avoidance	750,000	3,438,000	1,000	348,000	4,537,000
Open	0	0	4,000	1,032,000	1,036,000
<b>Total</b>	<b>4,683,000</b>	<b>4,904,000</b>	<b>903,000</b>	<b>3,571,000</b>	<b>14,060,000</b>

Solar Energy	Management Alignment				
	PHMA	GHMA	OHMA	Non-HMA	Total
Exclusion	4,088,000	1,373,000	564,000	2,457,000	8,483,000
Avoidance	750,000	3,438,000	0	349,000	4,537,000
Open	0	0	0	1,034,000	1,035,000
<b>Total</b>	<b>4,838,000</b>	<b>4,810,000</b>	<b>564,000</b>	<b>3,841,000</b>	<b>14,054,000</b>

Approximate % of Habitat Management Area by Solar Energy Decision in MZ V					
Solar Energy	No Action				
	PHMA	GHMA	OHMA	Non-HMA	Total
Exclusion	84%	30%	99%	61%	60%
Avoidance	16%	70%	<1%	10%	32%
Open	0%	0%	<1%	29%	7%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

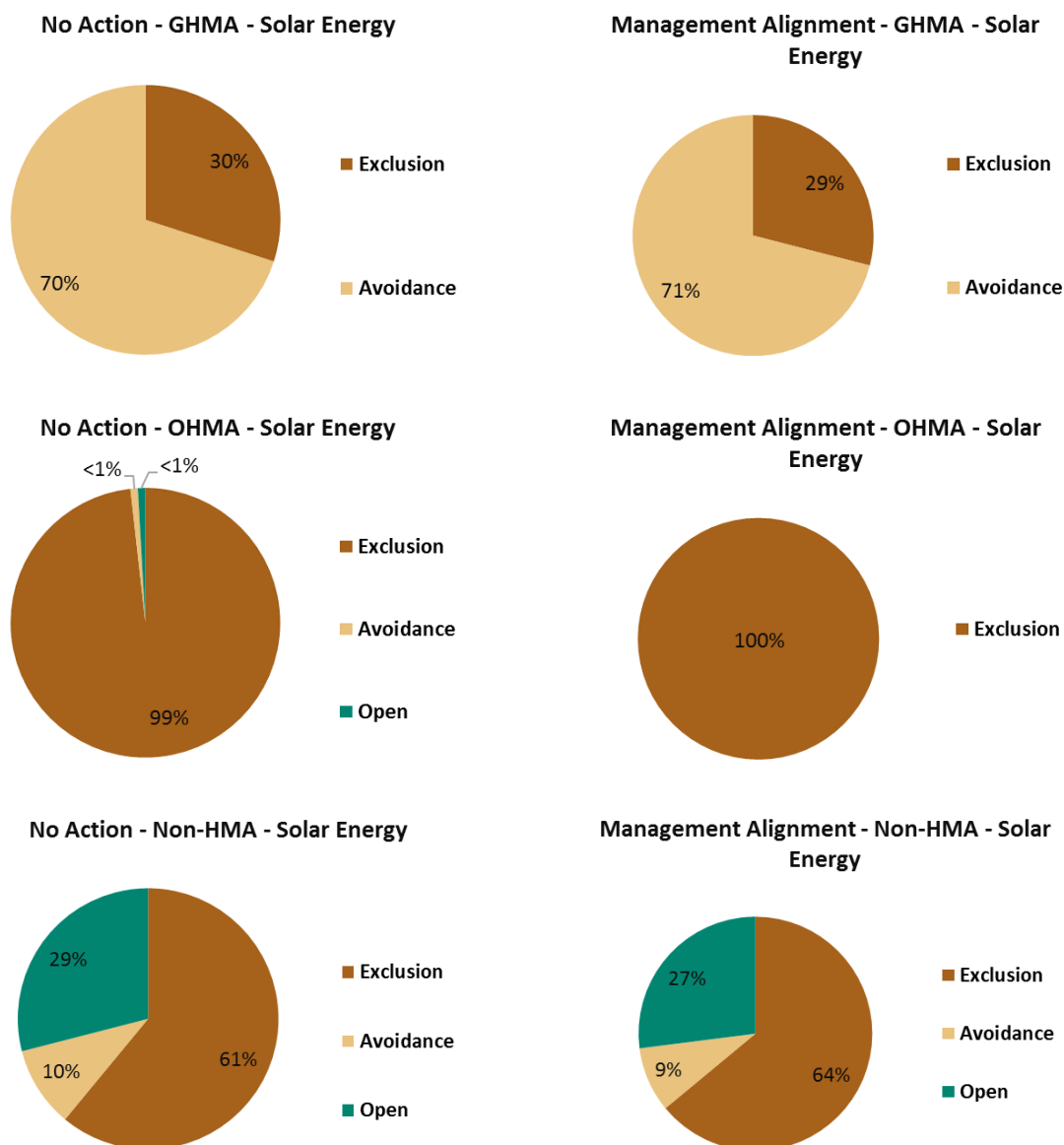
Solar Energy	Management Alignment				
	PHMA	GHMA	OHMA	Non-HMA	Total
Exclusion	84%	29%	100%	64%	60%
Avoidance	16%	71%	0%	9%	32%
Open	0%	0%	0%	27%	7%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

No Action & Management Alignment -  
PHMA - Solar Energy



**Figure 59 – Solar Energy Decisions within MZ V**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.



**Figure 59 (cont'd) – Solar Energy Decisions within MZ V**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

**XI. Trails and Travel Management****Table 61 – Trails and Travel Management Decisions within MZ V**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

<b>Approximate Acres of Trails and Travel Management Decisions in MZ V by Habitat Management Area Type</b>					
<b>Trails and Travel Management Decisions</b>	<b>No Action</b>				
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	220,000	215,000	59,000	423,000	<b>917,000</b>
Limited	4,452,000	4,681,000	428,000	1,257,000	<b>10,818,000</b>
Open	0	2,000	414,000	1,888,000	<b>2,304,000</b>
<b>Total</b>	<b>4,672,000</b>	<b>4,897,000</b>	<b>901,000</b>	<b>3,568,000</b>	<b>14,038,000</b>

<b>Trails and Travel Management Decisions</b>	<b>Management Alignment</b>				
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	215,000	214,000	64,000	424,000	<b>917,000</b>
Limited	4,613,000	4,591,000	290,000	1,280,000	<b>10,774,000</b>
Open	0	2,000	209,000	2,131,000	<b>2,342,000</b>
<b>Total</b>	<b>4,828,000</b>	<b>4,807,000</b>	<b>562,000</b>	<b>3,836,000</b>	<b>14,032,000</b>

<b>Approximate % of Habitat Management Area by Trails and Travel Management Decisions Decision in MZ V</b>					
<b>Trails and Travel Management Decisions</b>	<b>No Action</b>				
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	5%	4%	7%	12%	<b>7%</b>
Limited	95%	96%	48%	35%	<b>77%</b>
Open	0%	<1%	46%	53%	<b>16%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

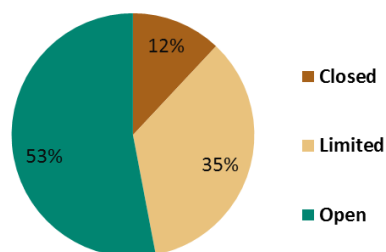
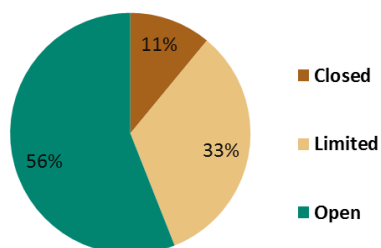
  

<b>Trails and Travel Management Decisions</b>	<b>Management Alignment</b>				
	<b>PHMA</b>	<b>GHMA</b>	<b>OHMA</b>	<b>Non-HMA</b>	<b>Total</b>
Closed	4%	4%	11%	11%	<b>7%</b>
Limited	96%	96%	52%	33%	<b>77%</b>
Open	0%	<1%	37%	56%	<b>17%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>



**Figure 60 – Trails and Travel Management Decisions within MZ V**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

**No Action - Non-HMA - Trails and Travel Management****Management Alignment- Non-HMA - Trails and Travel Management****Figure 60 (cont'd) – Trails and Travel Management Decisions within MZ V**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

## XII. Wind Energy

**Table 62 – Wind Energy Decisions within MZ V**

Acres and percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

Approximate Acres of Wind Energy Decisions in MZ V by Habitat Management Area Type					
Wind Energy	No Action				
	PHMA	GHMA	OHMA	Non-HMA	Total
Exclusion	3,927,000	454,000	158,000	792,000	5,330,000
Avoidance	750,000	4,445,000	0	321,000	5,516,000
Open	1,000	0	744,000	2,456,000	3,201,000
<b>Total</b>	<b>4,678,000</b>	<b>4,900,000</b>	<b>903,000</b>	<b>3,568,000</b>	<b>14,048,000</b>

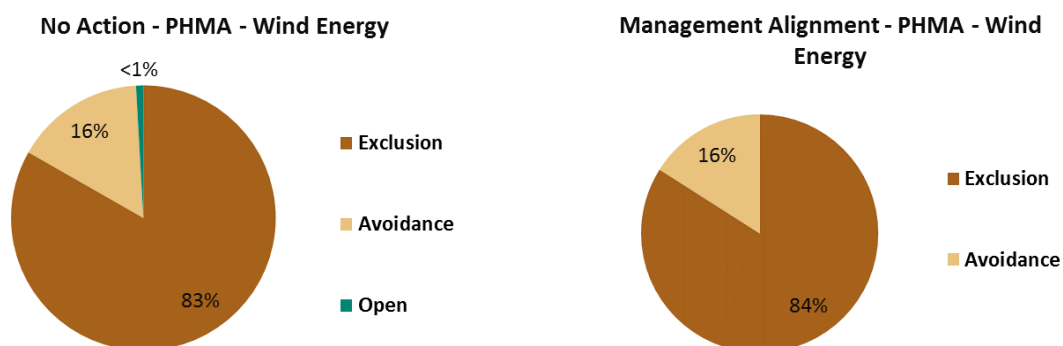
Wind Energy	Management Alignment				
	PHMA	GHMA	OHMA	Non-HMA	Total
Exclusion	4,083,000	467,000	141,000	829,000	5,520,000
Avoidance	750,000	4,341,000	0	321,000	5,412,000
Open	0	0	423,000	2,686,000	3,110,000
<b>Total</b>	<b>4,833,000</b>	<b>4,809,000</b>	<b>564,000</b>	<b>3,836,000</b>	<b>14,042,000</b>

Approximate % of Habitat Management Area by Wind Energy Decision in MZ V					
Wind Energy	No Action				
	PHMA	GHMA	OHMA	Non-HMA	Total
Exclusion	84%	9%	17%	22%	38%
Avoidance	16%	91%	0%	9%	39%
Open	<1%	0%	82%	69%	23%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

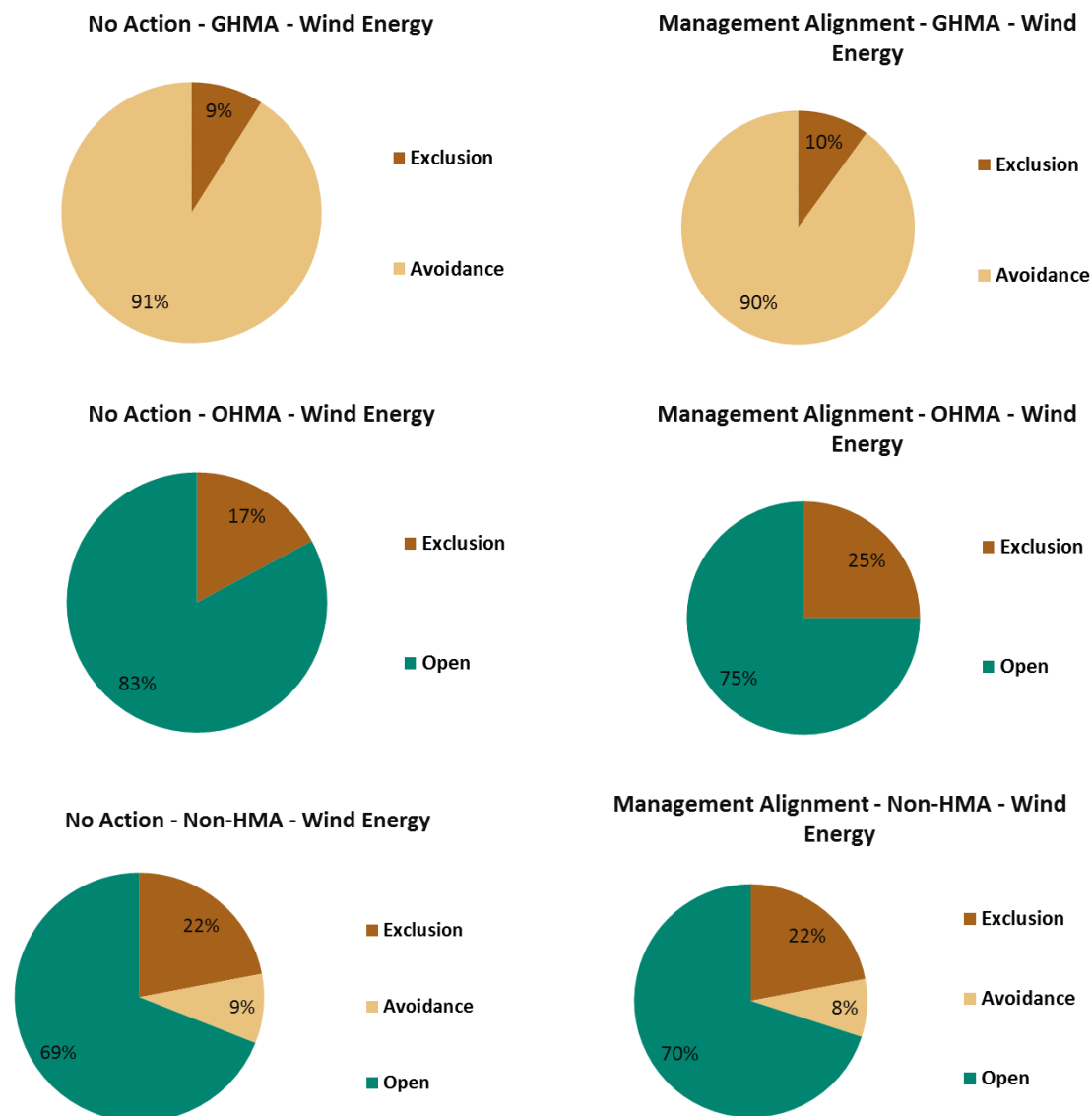
Wind Energy	Management Alignment				
	PHMA	GHMA	OHMA	Non-HMA	Total
Exclusion	84%	10%	25%	22%	39%
Avoidance	16%	90%	0%	8%	39%
Open	0%	0%	75%	70%	22%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>



**Figure 61 – Wind Energy Decisions within MZ V**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.





**Figure 6I (cont'd) – Wind Energy Decisions within MZ V**

Percentages reflect BLM managed lands. Percentages may not total to 100% due to rounding. All figures and tables are intended for Management Zone summary purposes only. They represent data available at the time of consolidation and may be revised as Plans are finalized. Consult each individual EIS for final/official acreages.

## Triggers Tripped by State:

Plan	2015	2016	2017	2018	2019
<b>NWCO</b>	-	None	None	None	-
<b>ID</b>	<b>West Owyhee IHMA</b> - Hard Habitat	<b>West Owyhee IHMA</b> - Hard Habitat REMAINS	<b>West Owyhee IHMA</b> - Hard Habitat REMAINS	<b>West Owyhee IHMA</b> - Hard Habitat REMAINS	<b>West Owyhee IHMA</b> - Hard Habitat REMAINS
	-	-	<b>Mountain Valley PHMA</b> - Hard Population	<b>Mountain Valley PHMA</b> - Hard Population REMAINS	<b>Mountain Valley PHMA</b> - Hard Population REMAINS
	-	-	-	<b>Desert PHMA</b> - Soft Population	<b>Desert PHMA</b> - Soft Population
	-	-	<b>Desert IHMA</b> - Hard Population	<b>Desert IHMA</b> - Hard Population REMAINS	<b>Desert IHMA</b> - Hard Population REMAINS
	-	-	<b>Mountain Valleys IHMA</b> - Soft Habitat	<b>Mountain Valleys IHMA</b> - Soft Habitat REMAINS	<b>Mountain Valleys IHMA</b> - Soft Habitat REMAINS
	-	-	-	-	<b>Desert PHMA</b> - Hard Population
	-	-	-	-	<b>Southern PHMA</b> - Hard Population
<b>MT /DKs</b>	None	None		None	-
<b>NV/NECA</b>	N/A	N/A	N/A	N/A	-
<b>OR - Updated 4/28/19</b>	<b>Baker</b> - Hard Population	<b>Baker</b> - Hard Population REMAINS	<b>Baker</b> - Hard Population REMAINS	<b>Baker</b> - Hard Population REMAINS	-
	<b>Cow Valley</b> - Soft Population	<b>Cow Valley</b> - Not enough data, removed from analysis	-	-	-
	<b>Bully Creek</b> - Hard Habitat	<b>Bully Creek</b> - Hard Habitat reanalyzed - <b>NOT TRIPPED</b>	-	-	-
	-	<b>Crowley</b> - Soft Population	<b>Crowley</b> - Soft Population REMAINS	<b>Crowley</b> - Soft Population REMAINS	-
	<b>Cow Lakes</b> - Soft Habitat & Population = Hard Trigger Tripped	<b>Cow Lakes</b> - Soft Habitat & Population = Hard Trigger Tripped	<b>Cow Lakes</b> - Soft Habitat & Population = Hard Trigger Tripped	<b>Cow Lakes</b> - Soft Habitat & Population = Hard Trigger Tripped REMAINS	-
	<b>Louse</b> - Soft Population	<b>Louse</b> - Not enough data, removed from analysis	-	-	-
	<b>Trout Creeks</b> - Soft Habitat	<b>Trout Creeks</b> - Soft Habitat REMAINS	<b>Trout Creeks</b> - Soft Habitat REMAINS	<b>Trout Creeks</b> - Soft Habitat REMAINS	-

Plan	2015	2016	2017	2018	2019
<b>OR - Updated 4/28/19 (continued)</b>	<b>Pueblo / S. Steens</b> - Soft Population	<b>Pueblo / S. Steens</b> - Change in threshold per ODFW recommendation. NOT TRIPPED. Calculation method revised in 2016 using ODFW method resulted in PAC not being tripped.	-	-	-
	<b>Steens</b> - Soft Habitat (w/o treatments included)	<b>Steens</b> - Soft Habitat REMAINS (w/o treatments included)	<b>Steens</b> - Soft Habitat reanalyzed - NOT TRIPPED (treatments included)	-	-
	<b>Dry Valley / Jack Mountain</b> - Soft Population	<b>Dry Valley / Jack Mountain</b> - Soft Population REMAINS	<b>Dry Valley / Jack Mountain</b> - Hard Population	<b>Dry Valley / Jack Mountain</b> - Hard Population REMAINS	-
	<b>Picture Rock</b> - Soft Population	<b>Picture Rock</b> - Soft Population REMAINS	<b>Picture Rock</b> - Hard Population	<b>Picture Rock</b> - Hard Population REMAINS	-
	-	<b>Warners</b> - Soft Population	<b>Warners</b> - Soft Population	<b>Warners</b> - Soft Population	-
	-	<b>Brothers / N. Wagontire</b> - Soft Population	<b>Brothers / N. Wagontire</b> - Soft Population REMAINS	<b>Brothers / N. Wagontire</b> - Hard Population	-
	<b>12-Mile / Paulina / Misery Flat</b> - Soft Population	<b>12-Mile / Paulina / Misery Flat</b> - Soft Population REMAINS	<b>12-Mile / Paulina / Misery Flat</b> - Soft Population UNTRIPPED	-	-
<b>UT</b>	-	<b>Sheeprocks</b> - Soft & Hard Population	<b>Sheeprocks</b> - Soft & Hard Population REMAINS	<b>Sheeprocks</b> - Soft & Hard Population REMAINS	-
<b>WY</b>	-	None	<b>Buffalo Connectivity</b> - Soft Habitat	<b>Buffalo Connectivity</b> - Soft Habitat Remains	<b>Jackson Hole PHMA</b> - Soft PHMA
	-	-	-	<b>Bear River</b> - Soft Habitat	-

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# Appendix S-3

Responses to Substantive Public Comments  
on the 2020 Draft Supplemental EIS



# Appendix S-3. Responses to Substantive Public Comments on the 2020 Draft Supplemental EIS

## INTRODUCTION

The Notice of Availability (NOA) for the Idaho Draft Supplemental Environmental Impact Statement (DSEIS) was published in the *Federal Register* on February 21, 2020 (85 Federal Register 10183, February 21, 2020), followed by a 90-day public comment period ending on May 21, 2020.

The Bureau of Land Management (BLM) received comments primarily through the online comment form that was provided on the project website<sup>1</sup>. The BLM recognizes that commenters invested considerable time and effort to submit comments on the DSEIS; as such, the BLM developed a comment analysis method to ensure that all comments were considered, as directed by National Environmental Policy Act (NEPA) regulations.

The BLM developed a systematic process for responding to comments to ensure all comments were tracked and considered. On receipt, each comment letter was assigned an identification number and logged into a tracking database that allowed the BLM to organize, categorize, and summarize comments. Comments were coded by appropriate categories based on content of the comment.

Comments similar to each other were grouped under a topic heading. The BLM then drafted a statement summarizing the issues contained in each group of comments. Responses to all substantive comments submitted on the DSEIS will be provided in the Final Supplemental Environmental Impact Statement (FSEIS) in accordance with 40 CFR 1503.4 – Response to Comments<sup>2</sup>.

Across all six Draft SEISs that were published on February 21, 2020, a total of 125,840 submissions were received; 222 of these were considered unique submissions. Some of the comments received throughout the public comment period expressed personal opinions or preferences, had little relevance to the adequacy or accuracy of the DSEIS, or represented commentary on resource management that is outside the scope of this planning process. These commenters did not provide specific information to assist the planning team in making a change to the DSEIS, did not suggest other alternatives, and did not take issue with methods used in the DSEIS; these comments are not addressed further in this comment summary report. Copies of all substantive comment letter submissions are available upon request.

Several organizations and groups held standardized letter campaigns to submit comments during the public comment period for the DSEIS. Through this process, their constituents were able to submit the standard letter or a modified version of the letter indicating support for the group's position on the DSEIS. Individuals who submitted a modified standard letter generally added new comments or

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<sup>1</sup> <https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=renderDefaultPlanOrProjectSite&projectId=105596&dctmId=0b0003e88110d407>

<sup>2</sup> <https://www.govinfo.gov/content/pkg/CFR-2012-title40-vol34/pdf/CFR-2012-title40-vol34-sec1503-4.pdf>

information to the letter or edited it to reflect their main concerns. The BLM received 125,840 campaign letters from two separate organizations, most of which were identical to the master letter.

The BLM read, analyzed, and considered all comments of a personal or philosophical nature and all opinions, feelings, and preferences for one element or one alternative over another. Because such comments were not substantive, the BLM is not responding to them. It is also important to note that, while the BLM reviewed and considered all comments, none were counted as votes. The NEPA public comment period is neither an election nor does it result in a representative sampling of the population. Therefore, public comments are not appropriate to be used as a democratic decision-making tool or as a scientific sampling mechanism.

The BLM received substantive comments regarding best available science and information considered while preparing the DSEIS. These included peer reviewed articles, references, and requests for new studies. The BLM will review the full text citations outlined in these comments and will consider information presented when determining if plan modifications are necessary.

## **SUMMARIES OF ISSUE TOPICS**

This appendix is split up into four sections: Rangewide Comment Responses; Idaho-Specific Comment Responses; Rangewide Comments; and Idaho-Specific Comments. The Rangewide Comment Responses section contains a summary of comments received that apply mostly rangewide. The BLM recognizes that not all of these comments apply to all states, but they do apply across multiple states. This section also contains a response to the summaries of comments. The Idaho-Specific Comment Responses section contains a summary of comments received specific to Idaho and responses to those comments. The full text of parsed comments received both rangewide and Idaho-specific can be found in the respective sections.

### **S-3.1 RANGEWIDE SUMMARY OF PUBLIC COMMENTS AND RESPONSES**

#### **S-3.1.1 Rangewide**

**Summary:** Commenters felt that the DSEIS is lacking in that there is no assessment of broad-scale applicability of these plans to meet the management goals BLM has established.

**Response:** Each BLM State Office is undergoing a 5-year monitoring reporting process regarding the progress of implementing Greater Sage-Grouse management. Based on the 2015 EIS monitoring plans, the BLM is producing a National Greater Sage-Grouse 5-Year Implementation Monitoring Report that it will submit to WAFWA for its Greater Sage-Grouse 2020 Conservation Assessment. The WAFWA-led team will review multiple reports from state and federal agencies, including BLM's Monitoring Report, to assess the implementation of the conservation commitments that resulted in the not warranted determination in 2015. The WAFWA team will review the Conservation Efforts Database as well. These additional steps are an assessment of the broad-scale applicability of the plans over a subregion.

#### **S-3.1.2 Purpose and Need**

**Summary:** Commenters asserted that the purpose and need in the DSEIS should reflect the need to address the new circumstances, science, and environmental concerns of the proposed action in the 2018 FEIS allowing for informed decision-making.



**Response:** The purpose and need was defined specifically to address a preliminary injunction order by the US District Court, which preliminarily found that the 2018 EISs likely needed to be supplemented to address the range of alternatives, a hard look at environmental impacts, cumulative effects analysis, and the BLM's approach to compensatory mitigation. The BLM continues to review new science related to Greater Sage-Grouse, and the plan allows for flexibility to consider new science, based on each state's needs and circumstances.

**Summary:** Commenters noted that the purpose and need in the DSEIS is different from the 2015 EIS and should consider a new range of alternatives.

**Response:** The purpose and need for this SEIS does differ from the 2015 EISs' purpose and need. In the 2018 FEISs, the BLM analyzed the Management Alignment Alternative and the Proposed Plan Amendment, incorporating the full range of alternatives considered in the 2015 EISs. The purpose and need for the SEIS is solely to address the preliminary injunction order by the US District Court, which preliminarily found that the 2018 EISs likely needed to be supplemented to address the range of alternatives, a hard look at environmental impacts, cumulative effects analysis, and the BLM's approach to compensatory mitigation. No new alternatives are needed to satisfy the purpose and need of the SEIS.

### **S-3.1.3 Issues**

**Summary:** Commenters requested that the BLM provide additional new analysis in the FSEIS and not just refer to previous analysis.

**Response:** The purpose and need for this SEIS is solely to address the preliminary injunction order by the US District Court, which preliminarily found that the 2018 EISs likely needed to be supplemented to address the range of alternatives, take a hard look at environmental impacts, cumulative effects analysis, and the BLM's approach to compensatory mitigation. This new analysis will help the BLM determine whether its 2015 and 2019 land use planning and NEPA processes have sufficiently addressed Greater Sage-Grouse habitat conservation or whether the BLM should initiate a new land use planning process to consider additional alternatives or new information. Only that analysis needed to respond to the purpose and need is included in the SEIS. For example, the cumulative analysis section was updated in the SEIS to account for additional past, present, and reasonably foreseeable projects; there is an updated assessment of habitat and population triggers tripped; and there is an update to the number of acres of habitat treated.

**Summary:** Commenters expressed concern about dismissing the issue of predators from detailed analysis in the DSEIS.

**Response:** The issue was not carried forward for additional analysis in the 2019 planning process because predation was not an issue specifically raised by the Governors for consistency and alignment of the BLM's plans with state Greater Sage-Grouse management plans and policies. As such, there was no need to re-evaluate decisions related to predation from the 2015 plans in the DSEIS. The purpose and need for the SEIS is solely to address the preliminary injunction order by the US District Court, which preliminarily found that the 2018 EISs likely needed to be supplemented to address the range of alternatives, a hard look at environmental impacts, cumulative effects analysis, and the BLM's approach to compensatory mitigation.

**Summary:** Commenters asserted that the FSEIS should analyze the magnitude of predation as a factor in causing the decline in Greater Sage-Grouse populations.

**Response:** Under the approved plans, when population triggers are tripped, the BLM does a causal factor analysis to determine the factors in declining populations in an area, which may include predation. The BLM acknowledges the multitude of factors that potentially contribute to population declines, as reflected in the adaptive management strategy.

#### **S-3.1.4 Range of Alternatives**

**Summary:** Commenters felt that the DSEIS does not explore the differences in the range of alternatives between the 2015 and 2019 plans, and only analyzes two alternatives: a No Action Alternative and the Management Alignment Alternative. Commenters felt that this is an inadequate range of alternatives.

**Response:** In the 2018 FEISs, the BLM analyzed the Management Alignment Alternative and the Proposed Plan Amendment, while also incorporating the full range of alternatives considered in the 2015 plans. The DSEIS carries this full range of alternatives forward, as described in detail in Section 2.1 of each DSEIS.

#### **S-3.1.5 New Alternative**

**Summary:** Commenters felt that the BLM should consider a new alternative that withdraws the 2019 ROD and that rejects the 2015 protection measures for Greater Sage-Grouse.

**Response:** Such a proposal would be the No Action Alternative analyzed in the 2015 EISs and part of the full range of alternatives analyzed in the 2018 FEISs.

#### **S-3.1.6 Data and Science**

**Summary:** The public submitted studies published since the 2018 USGS synthesis for consideration by the BLM. Additionally, the public submitted reviews of scientific literature for the BLM to consider in the FSEISs.

**Response:** The BLM partnered with USGS in 2018 to review new information since the 2015 RODs. The BLM subsequently incorporated the management implications of that information into the 2018 EISs. The report from USGS is available [here](#) and referenced throughout the SEIS.

The BLM places great import on the best available information, including new scientific studies and government reports that indicate a potential change in BLM's assumptions or conditions related to a land use planning effort. The BLM has to balance reviewing new information with determining what information is relevant to a decision in light of the BLM's purpose and need. Many commenters highlighted information and studies for the BLM to consider, and the BLM has reviewed each source submitted.

Upon review, the BLM found that the most up-to-date Greater Sage-Grouse science and other information has incrementally increased, and built upon, the knowledgebase of Greater Sage-Grouse management evaluated by the BLM most recently in its 2019 land use plan amendments, but does not change the scope or direction of the BLM's management. While the NTT, the COT and this new

science and information remain thus consistent with the scope of the 2019 planning decisions, new science does suggest adaptations to management may be warranted at site-specific scales. This is precisely the approach envisioned by the NTT and COT reports as well as the BLM's decades long planning efforts to address local actions that may affect Greater Sage-Grouse.

The scientists and managers that authored the COT and NTT reports could not have anticipated all the variables that would affect sage grouse into the future when they provided their recommendations. Varying topographic factors, ecological site potential, changes in methodologies, technological advances, variation in vegetation types, and anthropogenic disturbance, to name a few, make it difficult to adequately address all factors that affect sage grouse populations and habitat. Therefore, where appropriate, the BLM will consider this science and information through implementation-level NEPA analysis, consistent with its approved land use plans, policies, and regulatory frameworks.

**Summary:** The DSEIS inadequately addresses best available science on anthropogenic climate change.

**Response:** The BLM has analyzed climate change, including by addressing changes in fire frequency, changes in frequency of drought conditions, and the spread of invasive species. All of these factors can contribute to impacts on Greater Sage-Grouse and its habitat, regardless of the cause. Climate is one factor that affects populations and habitat, but not the only factor.

**Summary:** The DSEIS neglects the advances in technology that reduce the potential disturbance to Greater-Sage Grouse.

**Response:** The 2019 plans sought maximum alignment with state management plans for Greater Sage-Grouse within the BLM's management authority. BLM anticipated advances in technology and built in increased flexibility in implementation through things like exceptions, modifications, and waivers for fluid minerals stipulations. This increased flexibility would allow for oil and gas development in instances where impacts on Greater Sage-Grouse can be reduced to acceptable levels, such as through technology advancement.

**Summary:** The BLM should coordinate and consult with other federal or state agencies that maintain scientific expertise on both sage-grouse and sagebrush habitat to ensure that the conclusions in the FSEIS are scientifically credible.

**Response:** The BLM places great import on the best available information, including scientific studies and government reports that indicate a potential change in our assumptions or conditions related to a land use planning effort. The BLM acknowledges that states have management responsibility for managing Greater Sage-Grouse populations. In managing Greater Sage-Grouse, the BLM works closely with the states to determine population trends, and coordinates with other federal agencies such as USGS, USFWS, and NRCS on interpreting scientific information related to the species. The BLM has to balance reviewing new information with determining what information is relevant to a decision in light of the BLM's purpose and need. The BLM will continue to coordinate and, as applicable, consult with its partners on Greater Sage-Grouse management.

**Summary:** A commenter suggests that the need to address and correct the scientific flaws that originated in the 2015 plans and were carried forward to the 2019 plans has become even more urgent. The 2015 plans ignored the full spectrum of on-point, more recent science currently available, and

instead relied upon biased and outdated science. BLM should consider usage of a stage-based population dynamic model. The reports erroneously ignore accurate population data and adopt methodologically flawed modeling approaches that have consistently failed to accurately predict populations. The reports ignore natural population fluctuations and land use plans must consider large-scale climatic fluctuations and Greater Sage-Grouse population responses.

**Response:** The BLM partnered with USGS in 2018 to review new information since the 2015 RODs and the BLM subsequently incorporated the management implications of that information into the 2018 EISs. The report from USGS is available [here](#) and referenced throughout the SEIS.

The BLM places great import on the best available information, including new scientific studies and government reports that indicate a potential change in our assumptions or conditions related to a land use planning effort. The BLM has to balance reviewing new information with determining what information is relevant to a decision in light of the BLM's purpose and need. Many commenters highlighted information and studies for the BLM to consider, and the BLM has reviewed each source submitted. The BLM will continue to consider new science at the project phase of plan implementation as standard practice, as new science is constantly being published. Amending the plans to incorporate new science is not necessary because authorized officers use best available information to inform their decisions during plan implementation.

The Purpose and Need statement for the 2019 plans included a goal of aligning the BLM's management of Greater Sage-Grouse habitat with state plans. There were several instances during the 2019 planning process where states brought new science to BLM's attention that was used to formulate the Management Alignment Alternative. For example, the BLM incorporated new science on residual grass height, habitat mapping, and effects of oil and gas drilling.

**Summary:** Declining Greater Sage-Grouse populations in recent years should be considered in the analysis.

**Response:** Population declines are tracked in the land use plan through the adaptive management strategy. The trigger sensitivity accounts for the cyclical nature of Greater Sage-Grouse population levels. The SEISs address population declines through the disclosure of tripped triggers in Chapter 3 of each state's SEIS. The BLM acknowledges that states have management responsibility for managing Greater Sage-Grouse populations. In managing Greater Sage-Grouse, the BLM works closely with the states to determine population trends, and coordinates with other federal agencies such as USGS, USFWS, and NRCS on interpreting scientific information related to the species. There is a fresh look each year when the BLM receives the annual population data from the states, which, taken with the habitat data collected annually by the BLM, informs any adaptive management needed. If the data indicate that a trigger has been tripped, the BLM works with state and local partners to determine the causal factors and propose management changes.

In areas where triggers have been tripped, as disclosed in Chapter 3 of each state's SEIS, adaptive management has been implemented to prevent new disturbance that would impact Greater Sage-Grouse habitat on BLM-administered lands. The adaptive management framework was set up so that the BLM could respond to population and habitat dynamics without a plan amendment.

**Summary:** BLM should clarify the shortcomings of the NTT and COT reports.

**Response:** This was clarified in an appendix to each of the DSEISs titled *Review of the NTT and COT Report's Relevance to the Planning Process; Incorporation of the NTT, COT, and USGS Summary of Science into the [Subregion] Planning Process*.

#### **S-3.1.7 Direct/Indirect Impacts**

**Summary:** The BLM should include robust assessments of Greater Sage-Grouse population-level response to direct, indirect, and cumulative impacts associated with the alternatives.

**Response:** The SEISs address population declines through the disclosure of tripped triggers in Chapter 3 of each state's SEIS. In areas where triggers have been tripped, adaptive management has been implemented to prevent new disturbance that would impact Greater Sage-Grouse habitat on BLM-administered lands. The adaptive management framework was set up so that the BLM could respond to population and habitat dynamics without a plan amendment.

#### **S-3.1.8 Assumptions and Methodology**

**Summary:** Commenter argues that the proposed changes to the 2015 plan contradict scientific recommendations for conserving Greater Sage-Grouse, and the supplemental environmental impact statement fails to analyze and acknowledge the negative impacts that will result from the agency's proposed change in management direction.

**Response:** No changes were proposed in the 2020 SEISs.

#### **S-3.1.9 Cumulative Impacts**

**Summary:** The CEA failed to account for a number of relevant activities.

**Response:** The BLM has updated the past, present, and reasonably foreseeable actions as needed to reflect all current projects in the FSEIS.

**Summary:** The BLM should clarify in the FSEIS whether the cumulative effects analysis was done at the rangewide level organized by the WAFWA management zones.

**Response:** The BLM considered cumulative impacts on a rangewide basis, organizing that analysis at the geographic scale of each WAFWA management zone.

#### **S-3.1.10 Adaptive Management**

**Summary:** Flexibility should be added to adjustments in "Land Tenure," to "Rights-of-Way," and to "Travel Management" relative to site conditions in any FSEIS and plan amendments.

**Response:** The 2019 plans sought maximum alignment with state management plans for Greater Sage-Grouse within the BLM's management authority. Where such flexibility was needed to align with state plans, it was included in the 2019 Approved Plans. Additional flexibility or changes to decisions from the 2019 Approved Plans is outside the scope of these SEISs.

**Summary:** BLM should explain how ARMPA's adaptive management will work without monitoring the plan.

**Response:** BLM's ARMPA adaptive management strategy is based on population data from the states and habitat data collected by the BLM. These data are evaluated annually to determine the need for adaptive management changes as a result of tripped triggers. In addition, the BLM's 5-year monitoring report (completed in 2020) will be used in the WAFWA Greater Sage-Grouse 2020 Conservation Assessment.

#### **S-3.1.11 Burial of Transmission Lines**

**Summary:** The public submitted studies for consideration by the BLM regarding mitigation to transmission lines.

**Response:** Mitigation measures will be considered during project design and implementation and will be based on best available science and site-specific conditions.

**Summary:** Transmission line projects should not be exempt from abiding by the avoidance areas. All high-voltage related projects should comply with the proposed LUPA conservation measures. Alternative routes for these transmission projects exist, and more can be suggested to avoid interference with PHMA and GHMA. Flexibility in these projects to find a balance in interests is still possible to reap the benefits of energy for human use, while also preventing degradation of Greater Sage-Grouse habitat in PHMA and GHMA.

**Response:** Mitigation measures, including alternative routes, will be considered during project design and implementation and will be based on best available science and site-specific conditions.

#### **S-3.1.12 Disturbance and Density Caps**

**Summary:** The DSEIS fails to explain why Greater Sage-Grouse in Wyoming are more tolerant of disturbance than other states, or indeed, more tolerant than the best available science demonstrates.

**Response:** Wyoming BLM's 5 percent disturbance cap includes additional disturbance types (e.g., burned areas) not included in the list of disturbance types in other states, where the disturbance cap was set at 3 percent.

#### **S-3.1.13 Habitat Management Area**

**Summary:** The spatial extent of habitat management areas should not be modified.

**Response:** HMAs reflect habitat that is mapped based on best available information. If BLM and the state find that habitat was not reflected correctly in light of new information, plan maintenance or an amendment can be used to update boundaries to reflect the change in information.

**Summary:** The management prescriptions associated with habitat management areas should not be modified.

**Response:** The purpose of these plan amendments is to increase consistency with state management. In some cases that resulted in changes to management within the HMAs.

**Summary:** Restoration targets for Priority Habitat Management Areas (PHMA) should be developed and incorporated into the plans.

**Response:** While BLM has not developed specific restoration targets, the BLM has committed to significant restoration and recovery actions. The BLM spent considerable time and energy on the development of the FIATs that identify specific areas for specific types of actions and used that as a basis for requesting funding from Congress. Some targets have been developed but are not included in the plans for reasons such as uncertainty of funding to implement the actions to reach the targets.

**Summary:** The DSEIS fails to take a hard look at tripped triggers and fails to provide a full and clear listing of tripped triggers.

**Response:** The SEISs address population declines through the disclosure of tripped triggers in Chapter 3 of each state's SEIS. In areas where triggers have been tripped, adaptive management has been implemented to prevent new disturbance that would impact Greater Sage-Grouse habitat on BLM-administered lands. The adaptive management framework was set up so that the BLM could respond to population and habitat dynamics without a plan amendment.

**Summary:** Commenters state that the 2018 FEIS and DSEIS continue to fail to disclose the basis by which private lands can be considered in a federal land management planning document, and that the BLM has no authority under FLPMA to apply land use plan restrictions on private land. Other commenters request that the BLM apply Greater Sage-Grouse habitat management area definitions to private land.

**Response:** The BLM acknowledges that this planning effort does not apply land use plan restrictions on private land. However, when calculating disturbance either at the project or BSU level, the BLM does consider the cumulative disturbance in the area, which may include private, state, or other federal land. Based on the total disturbance in the area, the BLM has the authority to apply the management prescribed in the plan on BLM-administered lands. Furthermore, during cumulative effects analysis, the BLM considers past, present, and reasonably foreseeable projects on all lands in the impact area, regardless of jurisdiction.

### **S-3.1.14 Habitat Objectives**

**Summary:** The BLM has neglected to acknowledge the habitat conditions and trends across Greater-Sage Grouse range in the DSEISs, despite that trends are currently declining.

**Response:** The BLM acknowledged habitat changes for Greater Sage-Grouse when in 2010 it undertook a planning action to provide regulatory certainty for the species. Prior to that effort, the BLM partnered with the WAFWA, state wildlife agencies, and others, to manage habitat for Greater Sage-Grouse. Habitat conditions are assessed using the Habitat Assessment Framework. Habitat availability is tracked according to the Monitoring Framework or by the adaptive management strategy described in each land use plan. The adaptive management strategy is designed to respond to changing habitat conditions when triggers are tripped. The BLM considered cumulative impacts on a rangewide basis, organizing that analysis at the geographic scale of each WAFWA management zone.

**Summary:** The DSEIS inadequately addresses fragmentation within management areas on an individual scale.

**Response:** Fragmentation was addressed during the 2015 planning process. The analysis was incorporated by reference in the 2019 planning process. Additional information regarding habitat fragmentation was not needed to meet the purpose and need of the SEIS.

### **S-3.1.15 Lek Buffers**

**Summary:** Lek buffers should be maintained to protect leks.

**Response:** The BLM agrees that lek buffers are one of many important conservation tools available to manage sagebrush habitat and protect Greater Sage-Grouse. The BLM is retaining, and in some instances modifying or clarifying, the application of lek buffers as a management tool.

**Summary:** Lek buffers should be larger than prescribed in the plan amendments.

**Response:** As applicable, each RMPA has an appendix that addresses lek buffers and allows the BLM to adjust lek buffers based on the best available science, which would allow the BLM to adjust the buffers based on new information as well. Further, some states are clarifying the approach in this RMPA effort, or adjusting to better align with their individual state's management. For more specific information, please refer to the individual plans and their associated lek buffer appendix.

**Summary:** The 2011 NTT and 2013 COT report have a substantive number of flaws that need to be revised.

**Response:** The role of the NTT and COT reports is discussed in an appendix to each of the DSEISs titled *Review of the NTT and COT Report's Relevance to the Planning Process; Incorporation of the NTT, COT, and USGS Summary of Science into the [Subregion] Planning Process*. These reports are static reviews of scientific literature. The USGS did an updated review of scientific literature prior to the 2019 planning process. The BLM will continue to take into account best available science for Greater Sage-Grouse management.

**Summary:** Use of lek buffers and associated modifications must be included for analysis in this SEIS, not left for clarification through plan maintenance, because lek buffers were not fully analyzed in the previous EIS nor provided for public review and consideration.

**Response:** Lek buffers were part of the 2015 planning process and the public was provided an opportunity to comment during that process. As part of the 2019 planning process, the intent of lek buffers was clarified for some states, which is a maintenance action. For other states, the lek buffers were modified and the intent was clarified. In both cases, the public was provided an opportunity to comment on the 2018 DEIS and this DSEIS.

### **S-3.1.16 Livestock Grazing Management**

**Summary:** Rangeland health assessments do not adequately ensure protection and restoration of sage-grouse habitat. The BLM should include a discussion about how changes to scale and timeframe for rangeland health assessments will impact sage-grouse habitat management and agency land managers to adjust grazing practices when standards are not met.

**Response:** Rangeland health assessments are used to assess whether the rangelands are meeting standards and are not intended to protect or restore Greater Sage-Grouse habitat, although there is a



standard for wildlife/special status species habitat, which would include Greater Sage-Grouse habitat. The analysis of any future changes to the grazing regulations is outside the scope of this analysis and will be disclosed during other decision-making processes.

**Summary:** The DSEIS inadequately addresses the plan for closure of sage-grouse allotments upon receipt of waived or retired grazing permits.

**Response:** As explained in the DSEISs, the 2019 planning process incorporated the full range of alternatives from the 2015 planning process. Therefore, neither the 2019 planning process nor these SEISs expressly address this issue because there was no change proposed to the decision in the 2019 process. However, as the commenter acknowledges, the BLM did consider this within the range of alternatives for Greater Sage-Grouse management.

**Summary:** The DSEIS inadequately addresses the potential impact of livestock grazing on Greater Sage-Grouse habitat.

**Response:** The impacts of livestock grazing were disclosed in the 2015 plans. The 2019 plans did not change decisions that change the impacts previously disclosed, as described in Chapter 1 of the 2018 FEISs. Therefore, it was neither a subject of analysis in 2019 nor one in the SEISs. Furthermore, the purpose and need for the SEISs is solely to address the preliminary injunction order by the US District Court, which preliminarily found that the EISs likely needed to be supplemented to address the range of alternatives, a hard look at environmental impacts, cumulative effects analysis, and the BLM's approach to compensatory mitigation. No new alternatives are needed to satisfy the purpose and need of the SEISs.

### **S-3.1.17 Withdrawal Recommendation and SFAs (Sagebrush Focal Areas)**

**Summary:** Sagebrush focal areas (SFAs) should not be removed from the plans. Inconsistency in retention and removal of SFA across states is arbitrary and capricious. BLM is not legally required to remove SFA. Justifications for eliminating SFAs are inadequate.

**Response:** BLM is focused on aligning its management with state management. BLM's goal is to promote consistency and alignment with each state's management for Greater Sage-Grouse. Where BLM has increased its management flexibility, it has done so to improve alignment with the state plans and based on local information. In 2019, the BLM determined that SFA designations provided a redundant layer of resource protection and land use prioritization within PHMA and is acting within its discretion to remove SFA designation. Further, the BLM canceled the proposed withdrawal of SFAs through a publication in the *Federal Register* on October 11, 2017 (82 Fed. Reg. 47,248) after findings in the Sagebrush Focal Area Draft EIS noted that there was broadly low potential for locatable minerals within the recommended withdrawal area.

**Summary:** BLM should remove all reference to SFAs. SFAs are an overreach and unnecessary as priority habitat designations provide adequate habitat protection.

**Response:** SFAs and associated management direction specific to the SFAs were removed through the 2019 plans, except for in Oregon where they retained the SFA designation.

### S-3.1.18 Mitigation

**Summary:** A mandatory net-gain compensatory mitigation standard is supported by some commenters and objected to by others.

**Response:** Following extensive review of FLPMA, including existing regulations, orders, policies, and guidance, the BLM concluded that FLPMA does not explicitly mandate or authorize the BLM to require public land users to implement compensatory mitigation as a condition of obtaining authorization for the use of the public lands (Instruction Memorandum No. 2018-093, *Compensatory Mitigation*, July 24, 2018). Under FLPMA, the BLM has an obligation to ensure that its actions do not result in “unnecessary or undue degradation.” Preventing unnecessary or undue degradation does not mean preventing all adverse impacts upon the land. The negative inference of the words “unnecessary” and “undue” is that a certain level of impairment may be necessary and due under a multiple use mandate. See *Theodore Roosevelt Conservation Partnership v. Salazar*, 661 F.3d 66, 78 (D.C. Cir. 2011) (“FLPMA prohibits only unnecessary or undue degradation, not all degradation.”) (emphasis in the original); see also BLM, Instructional Memorandum No. 92-67 (Dec. 3, 1991) (“‘Unnecessary and undue degradation’ implies that there is also necessary and due degradation. For example, if there is only one route of access possible for development of an existing oil and gas lease, and that route presents the likelihood of some degradation of public lands or resources, such degradation may be considered necessary for the management of the oil and gas resource. . . . As another example, the RMP/EIS or site-specific environmental document may identify mitigation which would result in excessive expenditures of money or unusual technological requirements to achieve compliance. Otherwise there would be some degree of degradation of public lands or resources. If the mitigation would render the proposed operation uneconomic or technologically infeasible so that a prudent operator would not proceed, such degradation may also be considered necessary for the management of the oil and gas resource.”) (emphasis in the original). Accordingly, FLPMA does not require and implicitly counsels against a net-gain standard, which would be inconsistent with the negative inference of the phrase “unnecessary or undue degradation.” Even if the BLM has authority to use compensatory mitigation, the BLM has – consistent with its multiple-use mission – determined that exercise of that authority to meet a net conservation gain mitigation standard is unwarranted. Moreover, as described in the FEIS, the goal of the RMP amendments to– improve the condition of sage grouse habitat – remains as a planning-level objective for sage grouse conservation. As a practical matter, it is too speculative to analyze the impacts of the shift back to a “no net loss” standard from a “net-gain” standard at the programmatic level. First, the BLM continues to identify ways to avoid, minimize, and rectify the impact of specific projects at the project-specific level. Second, it is impossible to predict the amount of compensatory mitigation that might voluntarily occur in the future and the environmental consequences of that compensatory mitigation. Therefore, analysis of the environmental impact of compensatory mitigation (or lack thereof) is more appropriate for future project-specific NEPA, where it is possible to assess any project-specific compensatory mitigation that is offered voluntarily or as part of a state approach, including avoidance, minimization, and rectification measures applicable to the specific project and site. The BLM is committed to working with the project proponents and States to ensure that those actions are reasonable, effective, and implemented according to best management practices, to the extent that federal law allows.

**Summary:** Various commenters argued that the “net conservation gain” standard should be retained, modified, or eliminated. Many commenters requested clarification of the BLM’s authority to impose compensatory mitigation.

**Response:** Following extensive review of FLPMA, including existing regulations, orders, policies, and guidance, the BLM concluded that FLPMA does not explicitly mandate or authorize the BLM to require public land users to implement compensatory mitigation as a condition of obtaining authorization for the use of the public lands (Instruction Memorandum No. 2018-093, Compensatory Mitigation, July 24, 2018). Under FLPMA, the BLM has an obligation to ensure that its actions do not result in “unnecessary or undue degradation.” Preventing unnecessary or undue degradation does not mean preventing all adverse impacts upon the land. The negative inference of the words “unnecessary” and “undue” is that a certain level of impairment may be necessary and due under a multiple use mandate. See *Theodore Roosevelt Conservation Partnership v. Salazar*, 661 F.3d 66, 78 (D.C. Cir. 2011) (“FLPMA prohibits only unnecessary or undue degradation, not all degradation.”) (emphasis in the original); see also BLM, Instructional Memorandum No. 92-67 (Dec. 3, 1991) (“‘Unnecessary and undue degradation’ implies that there is also necessary and due degradation. For example, if there is only one route of access possible for development of an existing oil and gas lease, and that route presents the likelihood of some degradation of public lands or resources, such degradation may be considered necessary for the management of the oil and gas resource. . . . As another example, the RMP/EIS or site-specific environmental document may identify mitigation which would result in excessive expenditures of money or unusual technological requirements to achieve compliance. Otherwise there would be some degree of degradation of public lands or resources. If the mitigation would render the proposed operation uneconomic or technologically infeasible so that a prudent operator would not proceed, such degradation may also be considered necessary for the management of the oil and gas resource.”) (emphasis in the original). Accordingly, FLPMA does not require and implicitly counsels against a net-gain standard, which would be inconsistent with the negative inference of the phrase “unnecessary or undue degradation.” Even if the BLM has authority to use compensatory mitigation, the BLM has – consistent with its multiple-use mission – determined that exercise of that authority to meet a net conservation gain mitigation standard is unwarranted. Moreover, as described in the FEIS, the goal of the RMP amendments to– improve the condition of sage grouse habitat – remains as a planning-level objective for sage grouse conservation. As a practical matter, it is too speculative to analyze the impacts of the shift back to a “no net loss” standard from a “net-gain” standard at the programmatic level. First, the BLM continues to identify ways to avoid, minimize, and rectify the impact of specific projects at the project-specific level. Second, it is impossible to predict the amount of compensatory mitigation that might voluntarily occur in the future and the environmental consequences of that compensatory mitigation. Therefore, analysis of the environmental impact of compensatory mitigation (or lack thereof) is more appropriate for future project-specific NEPA, where it is possible to assess any project-specific compensatory mitigation that is offered voluntarily or as part of a state approach, including avoidance, minimization, and rectification measures applicable to the specific project and site. The BLM is committed to working with the project proponents and States to ensure that those actions are reasonable, effective, and implemented according to best management practices, to the extent that federal law allows.

**Summary:** Various commenters argued that recent changes in mitigation policy and the applicability to sage-grouse warrant additional analysis, public review, or an SEIS.

**Response:** The BLM has prepared this SEIS with the explicit intention of providing commenters and the public at large with an additional opportunity to review and analyze the BLM’s approach to mitigation policy. To wit, the BLM received approximately 70 discreet public comments referencing the BLM’s approach to mitigation and the applicability to Greater Sage-Grouse. These comments build upon and

supplement public input on the 2018 DEISs, which requested comment on implementing mitigation, “including alternative approaches to requiring compensatory mitigation in BLM land use plans.” The 2018 FEISs clarified how voluntary compensatory mitigation should be considered in the management of Greater Sage-Grouse habitat and how BLM will work with each state management agency to implement its compensatory mitigation strategy. This clarification aligned the 2019 ARMPAs with BLM policy and with the scope of compensatory mitigation authority expressly provided by FLPMA. Further, in many cases, the public will have additional opportunity to comment on specific mitigation approaches at the project-specific level.

**Summary:** Many commenters stated the BLM should clarify how it will implement compensatory mitigation.

**Response:** The BLM entered into agreements with the States of Colorado, Idaho, Nevada, Oregon, Utah, and Wyoming to clarify how BLM, project proponents, and state management agencies will collaborate to implement a state’s compensatory mitigation plan. The BLM will defer to a state methodology for habitat quantification if such a tool exists and incorporate the state’s assessment into the appropriate NEPA documentation. The Proposed Plan Amendment clarified that the BLM will consider compensatory mitigation only as a component of compliance with a state mitigation plan, program, or authority, or when offered voluntarily by a project proponent. The Proposed Plan Amendment further clarified the application of the mitigation standard as a planning-level goal and objective for Greater Sage-Grouse habitat conservation. BLM commits to cooperating with the states to analyze applicant-proffered or state-imposed compensatory mitigation to offset residual impacts. BLM may then authorize such actions consistent with NEPA analysis and the governing land use plan.

**Summary:** The BLM should work with the states to recommend compensatory mitigation actions.

**Response:** The BLM follows the memoranda of understanding with the states regarding compensatory mitigation which, as clarified in the 2019 plans, generally states that the states are to recommend compensatory mitigation actions and the BLM is to analyze them in the appropriate NEPA document. Although the states recommend compensatory mitigation, there is close coordination between the BLM and the state wildlife agencies when discussing site conditions and the mitigation hierarchy.

**Summary:** To be effective, mitigation should be required by the BLM and not left to the states.

**Response:** Following extensive review of FLPMA, including existing regulations, orders, policies, and guidance, the BLM has concluded that FLPMA does not explicitly mandate or authorize the BLM to require public land users to implement compensatory mitigation as a condition of obtaining authorization for the use of the public lands (Instruction Memorandum No. 2018-093, *Compensatory Mitigation*, July 24, 2018). However, the BLM is committed to applying and enforcing the mitigation hierarchy of actions to avoid, minimize, and otherwise mitigate impacts to the extent that federal law allows. A principal component of Greater Sage-Grouse management is the implementation of mitigation actions to ameliorate the threats and impacts to Greater Sage-Grouse and its habitats. The 2019 Proposed Plans clarified how voluntary compensatory mitigation should be considered in the management of Greater Sage-Grouse habitat and how BLM will work with each state management agency to implement its compensatory mitigation strategy. Additionally, compensatory mitigation was one of many tools used in the 2015 plans to balance uses of public land. However, the mechanism for implementing compensatory mitigation has changed since the 2015 plans as the BLM clarified its

mitigation policy. Furthermore, since the 2015 plans were implemented, many states have established their own compensatory mitigation programs and increased their own investment in restoring and improving Greater Sage-Grouse habitat. The BLM sought comment on compensatory mitigation again as part of this SEIS.

#### **S-3.1.19 Modifying Waivers, Exceptions, and Modifications of Fluid Minerals**

**Summary:** The uncertainty with how waivers, exceptions, and modifications will be used introduces uncertainty to protections that are not fully analyzed. Criteria for the use of waivers, exceptions, and modifications should be more narrowly prescribed.

**Response:** Under the 2019 ARMPAs, waivers, exemptions, and modifications would be granted only when meeting specific criteria designed to advance the management goals and objectives in the RMPs. BLM's Approved Plan Amendment balanced the risk of uncertainty against the benefits of management flexibility when considering whether to grant a waiver, exception, or modification. Planning criteria identified for that amendment include consideration of how planning decisions may impact future listing determinations under the Endangered Species Act.

**Summary:** BLM should monitor the use of waivers, exceptions, and modifications.

**Response:** Some BLM State Offices, through the fluid minerals program, track waivers, exceptions, and modifications. The BLM is currently reviewing whether and how to apply these practices at the national level. It should be noted that waivers, exceptions, and modifications would only be authorized upon meeting the criteria in the Approved Plans, which demonstrate that Greater Sage-Grouse and its habitat would not be adversely impacted.

#### **S-3.1.20 Prioritization of Mineral Leasing**

**Summary:** The BLM does not address the elimination of prioritizing project-level development outside PHMA, which is required under the 2015 ARMPAs but eliminated under the 2018/2020 EISs.

**Response:** The BLM has implemented the plans in conformance with its regulations and policies. IM 2018-026 explicitly states that "BLM does not need to lease and develop outside of Greater Sage-Grouse habitat management areas before considering any leasing and development within Greater Sage-Grouse habitat." Prioritization of oil and gas leasing outside of PHMA and GHMA is included as an objective in the 2015 plans, not an allocation. The 2018 plan continues restrictive stipulations in PHMA and may serve to encourage leasing and development outside of PHMAs but does not represent a prohibition on doing so and is consistent with IM 2018-026. The BLM will continue to work with states in determining appropriate prioritization of leasing outside of PHMA.

#### **S-3.1.21 Greater Sage-Grouse**

**Summary:** Regulatory changes and regulatory uncertainty increase the likelihood of listing of the species under the Endangered Species Act. The impacts analysis is deficient. Protections afforded by the plans are not sufficient to prevent listing of the species.

**Response:** The BLM's 2018 proposed plans balance the risk of uncertainty against the benefits of management flexibility and alignment when considering changes to the 2015 plans. Planning criteria

identified for the 2019 amendments include consideration of how planning decisions may impact future listing determinations under the Endangered Species Act.

**Summary:** The FSEIS needs to evaluate current population status and trends and disclose how the various alternatives would impact future population trends, which directly affect the risk that Greater Sage-Grouse may face “potential listing” under the Endangered Species Act.

**Response:** Population declines are tracked in the land use plan through the adaptive management strategy. The trigger sensitivity accounts for the cyclical nature of Greater Sage-Grouse population levels. The SEISs address population declines through the disclosure of tripped triggers in Chapter 3 of each state’s SEIS. The BLM acknowledges that states have management responsibility for managing Greater Sage-Grouse populations. In managing Greater Sage-Grouse, the BLM works closely with the states to determine population trends, and coordinates with other federal agencies such as USGS, USFWS, and NRCS on interpreting scientific information related to the species. There is a fresh look each year when the BLM receives the annual population data from the states, which, taken with the habitat data collected annually by the BLM, informs any adaptive management needed. If the data indicate that a trigger is tripped, the BLM works with state and local partners to determine the causal factors and propose management changes.

In areas where triggers have been tripped, as disclosed in Chapter 3 of each state’s SEIS, adaptive management has been implemented to prevent new disturbance that would impact Greater Sage-Grouse habitat on BLM-administered lands. The adaptive management framework was set up so that the BLM could respond to population and habitat dynamics without a plan amendment.

Because part of the purpose for the 2015 plans was to provide for regulatory certainty with respect to Greater Sage-Grouse management and prevent the listing of the species, analysis of the alternatives considered in 2015 inherently included a risk assessment regarding the potential for listing. One of the alternatives considered in each of the plans in 2015 was the state management plans. In the 2019 planning process, the BLM again evaluated the state management plans as the management alignment alternatives and agreed-upon changes as the proposed plan amendments. Many factors outside of the BLM’s authority contribute to population fluctuations; therefore, BLM management cannot be directly linked to predicting future population trends.

Additionally, while planning criteria identified for the 2019 amendments included consideration of how planning decisions may impact future listing determinations under the Endangered Species Act, it is not within the BLM’s authority to determine whether certain actions would be sufficient to avoid listing. NEPA does not require the BLM to disclose whether the proposed changes provide regulatory certainty to support a determination that is within the jurisdiction of the USFWS. The BLM has disclosed the impacts of the changes in management regarding mitigation.

### **S-3.1.22 Non-Greater Sage-Grouse**

**Summary:** There is a lack of information in the DSEIS regarding the environmental baseline and information needs to be updated.

**Response:** The BLM acknowledged that there have been changes to the landscape since 2015; however, due to the scale of the analysis in the 2019 planning process, data collected consistently across the range indicate that the extent of these changes to the landscape are relatively minimal. For example,

BLM monitoring data collected and analyzed annually at the BSU scale, as outlined in the Greater Sage-Grouse Monitoring Framework, indicate that there has been a minimal overall increase in estimated disturbance within PHMA. Moreover, there has been an overall minimal decrease in sagebrush availability in PHMA within BSUs. Based on available information, including the USGS reports, the BLM concluded that the existing condition was not substantially different from that which existed in 2015; therefore, the data and information presented in the 2015 FEISs were incorporated by reference into the 2018 RMPAs/EISs. Where notable changes to the baseline condition changed, a discussion was included.

### **S-3.1.23 Fluid Minerals**

**Summary:** The BLM does not disclose acreage of oil and gas leasing activities rangewide and must correct this.

**Response:** Existing oil and gas leases form the affected environment. To the extent detail is needed to support analysis, information has been disclosed through the 2015 and 2019 planning processes. The BLM continues to offer oil and gas leases in conformance with the Greater Sage-Grouse management plans.

### **S-3.1.24 Fire and Fuels**

**Summary:** Many commenters requested use of managed livestock grazing as a means of reducing fuel loads and affirmed that restricting grazing will increase vegetative fuel loads and increase wildfires.

**Response:** Restricting livestock grazing (specific to identifying areas as unavailable to livestock grazing) is not analyzed or incorporated in the RMPA. In addition, use of managed livestock grazing as a means of reducing fuel loads (targeted grazing) is a tool that BLM can implement and would not be prevented based on the provisions in any of the alternatives analyzed in this planning effort.

**Summary:** The BLM needs to address the threat of invasive plant species as well as sagebrush and other shrub encroachment in fire management considerations. Outcome-based grazing practices could be a tool to control these species.

**Response:** Management prescriptions associated with reducing invasive species were analyzed and discussed in the 2015 FEIS and were incorporated by reference in the 2018 EIS. Outcome-based grazing is a tool that can be implemented where appropriate and is authorized through 43 CFR 4120.2 of the livestock grazing regulations during permit renewal.

### **S-3.1.25 Vegetation**

**Summary:** The BLM did not disclose the effectiveness of treatments in recent years for Greater Sage-Grouse habitat enhancement.

**Response:** A NEPA analysis of BLM-proposed vegetation treatments is performed at the local level, and post-treatment monitoring is conducted at that level. Treatments are expected to be successful when fully implemented as described in the project NEPA. No national repository of effectiveness of treatments exists. Projects are designed at the field level based on current conditions, past success, recent literature, and the purpose and need for the proposal.

**Summary:** Commenters caution that juniper-removal projects in Greater Sage-Grouse habitat may result in expansion of cheatgrass. Activities should be limited that cause soil disturbance (grazing, drilling, etc.) in order to prevent the spread of invasive species.

**Response:** The 2015 plans include RFDs to prevent the spread of invasive species. It is also common practice to implement such measures during project design and implementation.

#### **S-3.1.26 Guidance and Policy**

**Summary:** As cooperating agencies, the Counties should be involved throughout the NEPA process, including the preparation of this SEIS. BLM should thoroughly consider these plans and alternatives and coordinate with the Counties on the final land use plans.

**Response:** The BLM values its coordination with local jurisdictions as it does other federal and state agencies. The BLM relied on the special expertise of these entities as cooperating agencies during the 2015 and 2019 planning processes. The SEISs were undertaken solely to respond to the preliminary injunction order. No new decisions are required to be made. Instead, BLM clarified and updated its existing NEPA analysis, highlighting the issues raised in Judge Winnill's order. Although many agencies have special expertise related to Greater Sage-Grouse management, such expertise was not necessary to comply with the purpose and need for these SEISs.

#### **S-3.1.27 Statutes and Regulations**

**Summary:** The BLM inappropriately tiered to a document of equal scope. The BLM failed to summarize and relate applicability of material incorporated by reference to the new plans.

**Response:** BLM is using incorporation by reference to streamline its analysis consistent with administrative priorities. Incorporation of the 2015 EIS by reference is allowable under BLM regulations and is appropriate in this circumstance because the purpose of this action builds upon the goals and objectives of the 2015 EIS. Further, the CEQ 40 Questions, Question 24c, states that, "Tiering is a procedure which allows an agency to avoid duplication of paperwork through the incorporation by reference of the general discussions and relevant specific discussions from an environmental impact statement of broader scope into one of lesser scope or vice versa." The BLM summarized and referenced applicable aspects of the 2015 EIS throughout the 2018 EIS, but especially in Chapters 2 and 4.

**Summary:** The BLM has failed to consult with USFWS about the impacts of the proposed plan.

**Response:** The BLM coordinated with USFWS in 2018 regarding the changes in the Proposed Plan Amendments to determine if there would be different effects from those referenced in the Biological Opinions. All states received concurrence letters from USFWS that, while the 2019 plans constituted a change to the 2015 plans, the effects described in the 2019 plans were consistent with those analyzed during 2015 consultation efforts and did not consider re-initiation of Endangered Species Act Section 7 consultation necessary. Because no new decisions are being considered in the SEISs, consultation as part of this effort is not necessary.



## **S-3.2 IDAHO-SPECIFIC SUMMARY OF PUBLIC COMMENTS AND RESPONSES**

### **S-3.2.1 Purpose and Need**

**Summary:** Commenters stated that the purpose and need statement in the DSEIS is too narrow and excludes necessary amendments to the 2015 ARMPAs to improve habitat protections and make them more readily applicable to land management.

**Response:** The agency's purpose and need in 2019 was carefully drawn to respond to the preliminary injunction order, which primarily requires additional NEPA analysis. The DSEIS builds off the comprehensive 2015 and 2019 planning and NEPA processes; incorporates the 2015 Final EIS analysis by reference in its entirety, including its alternatives; and has been informed by a scoping process that has identified specific opportunities to improve alignment with state plans.

### **S-3.2.2 Modifying Waivers, Exceptions, and Modifications of Fluid Minerals Determinations**

**Summary:** Commenters requested that the no surface occupancy (NSO) requirement in PHMA should be consistent with the Governor's plan to include the flexibility of an exception, waiver, or modification process.

**Response:** The 2019 ARMPA was based on recommendations from the Governor's office to align with the State of Idaho's Greater Sage-Grouse Plan. Any divergence between the BLM's ARMPA and the State's plan are a direct result of coordination with the Governor's office as analyzed in the Management Alignment Alternative.

### **S-3.2.3 Habitat Boundary/Habitat Management Area Designations**

**Summary:** Commenters requested that the BLM integrate flexibility into the 2020 plans so that habitat management area boundaries can be adjusted without the need for a plan amendment.

**Response:** The thresholds for amending plans are defined in BLM's planning handbook and often depend on specific context. The BLM is committed to streamlined and effective processes using plan maintenance and other measures when appropriate. Habitat boundaries are adjusted according to specific criteria and the decision to modify them via plan maintenance or amendment will be determined at the appropriate time.

### **S-3.2.4 Lands and Realty**

**Summary:** Commenters pointed out that the DSEIS does not explicitly define or explain what constitutes a "ROW avoidance areas." Commenters asserted that the language in the DSEIS from pages 2-8 is confusing regarding the revision of MD LR 2 and its relationship to MD SSS 29 because it is specific to anthropogenic disturbance caps, which is not applicable to livestock grazing (as discussed in Section VII of the DSEIS).

**Response:** MD LR 2 designates PHMA and IHMA as ROW avoidance areas. MD SSS 29 provides guidance for anthropogenic disturbance, which can be sited in ROW avoidance areas under the criteria provided for in MD SSS 29 and MD SSS 27. None of these provisions apply to livestock grazing or range improvements.

### **S-3.2.5 Sagebrush Focal Area (SFA) Designations**

#### **S-3.2.6 Disturbance and Density Caps**

**Summary:** Commenters felt that the DSEIS overcomplicates the project scale disturbance cap and does not provide the flexibility to cluster multiple projects in one area of a Biologically Significant Unit. Commenters asserted that the BLM should address these issues in the FSEIS.

**Response:** The removal of the project level disturbance cap allows for the clustering of multiple projects in already disturbed areas.

**Summary:** Commenters supported an explicit statement in the 2019 plan amendment to clarify whether any anthropogenic disturbance caps do not relate to livestock grazing. Commenters also requested that the BLM also relate anthropogenic disturbance caps to livestock grazing range improvements and clarify that “other vertical structures” (pages 2-5 of the DSEIS) does not mean fences, water tanks, or any other livestock grazing range improvements that may have some amount of vertical stature.

**Response:** The disturbance caps apply to anthropogenic disturbance, which is defined on page in MD SSS 27. Range improvements are not on the list.

#### **S-3.2.7 Required Design Features (RDFs)**

**Summary:** Commenters requested that the RDF appendix in the FSEIS have more flexibility, so that managers can apply the appropriate individual RDFs to address site-specific situations. Commenters asserted that the BLM should work with local agencies and choose specific design features based on the site, and not adopt a one-size-fits all approach.

**Response:** The BLM added flexibility to the RDFs in the 2019 planning process by recategorizing them as best management practices in GHMA. In IHMA and PHMA, there is a process to apply variations to the RDFs based on best available science and site-specific conditions. See Appendix C (page C-1) of the 2019 ARMPA. The BLM incorporated the changes to the RDFs from the 2019 planning process into the DSEIS.

#### **S-3.2.8 Habitat Objectives**

**Summary:** Commenters felt that more clarification is needed to better differentiate between objectives and standards in the FSEIS.

**Response:** Objectives provide the clear direction and intent of planning decisions. They are required in land planning per the BLM planning handbook. Rangeland Health Standards are not planning decisions yet help guide the implementation of planning decisions. They are used to measure land health prior to authorizing implementation actions.

#### **S-3.2.9 Adaptive Management**

**Summary:** Commenters expressed concern over the adaptive management measures proposed in the DSEIS to address population declines in designated habitat because there is not a clause that monitors and manages predator numbers, which is a key factor in Greater Sage-Grouse population cycles. Commenters asserted that the DSEIS attempts to weaken the 2015 outcomes by increasing management flexibility.

**Response:** Population declines that trip a hard trigger immediately converts habitat management to that for PHMA. Tripped triggers also result in a causal factor analysis. If the causal factor analysis determines that population declines are due to predators, the BLM would work with the appropriate agency, such as APHIS, to take appropriate action.

### **S-3.2.10 Mitigation**

**Summary:** Commenters felt that there is not clear justification or science in the DSEIS for how the BLM arrived at weaker mitigation standards, particularly for GHMA.

**Response:** As the Greater Sage-Grouse is principally managed by states, it is important that BLM's management of habitat aligns with that of the states. The no net loss mitigation standard was developed by the Idaho Governor's SGTF in 2014 and was a component of the co-preferred BLM and State of Idaho Alternative. The Idaho Governor's Plan did not require mitigation in GHMA and in an effort to better align with the Governor's plan, the BLM incorporated a no net loss mitigation standard and removal of the mitigation requirement in GHMA under the Management Alignment Alternative. As a result of comments on the 2018 Draft EIS, BLM changed the Proposed Plan Amendment in the 2018 Final EIS to require a no net loss mitigation standard in GHMA. The BLM incorporated this standard into the DSEIS.

**Summary:** Commenters requested that the BLM conduct a supplemental analysis to reflect recent changes in mitigation policy, and how the removal of the net conservation gain standard from the 2019 amendments affected environmental consequences.

**Response:** The clarification to BLM's mitigation policy does not represent a substantial change from the 2018 DEIS. Rather, the BLM clarified the role that state requirements play in guiding the BLM's decision to evaluate compensatory mitigation as part of proposed actions. The BLM still evaluated compensatory mitigation in the same way it included other state requirements as part of a proposed action in the BLM's NEPA analysis.

The Idaho 2018 FEIS included mitigation through as the following actions: the application of no surface occupancy stipulations with certain exceptions, modifications, and waivers; and avoidance areas surrounding leks for such land use authorizations as rights-of-ways. To align the 2019 planning effort with the BLM's compensatory mitigation policy (IM 2019-18), the 2018 FEIS clarified that the BLM would consider compensatory mitigation only as a component of compliance with a state mitigation plan, program, or authority, or when offered voluntarily by a project proponent. As described in IM 2019-18, the BLM would evaluate any compensatory mitigation measures required by the State in all action alternatives in its NEPA analysis and incorporate those measures as an enforceable condition of the BLM's authorization as appropriate.

After accounting for state mitigation policies, voluntary mitigation by project proponents, federal and state investment into habitat enhancement and restoration, and environmental contributions to Greater Sage-Grouse habitat changes such as fire, differences in the environmental impacts resulting from mitigation approach between the 2015 and 2018 plans are not substantially different. However, the BLM did provide an opportunity for comment on this issue during the comment period for the DSEIS.

**Summary:** Commenters indicated that similar to other triggers based on population numbers, triggers based on acres lost need to incorporate actionable solutions to problems.

**Response:** Habitat declines in IHMA that trip a hard trigger immediately converts to that for PHMA. Tripped triggers also result in a causal factor analysis and the appropriate adaptive management response.

**Summary:** Commenters requested that the BLM clarify - in light of rights granted under the Mining Law to develop and occupy both unpatented and patented mineral claims - how it will handle situations when the State requires compensatory mitigation.

**Response:** The BLM can regulate certain mining activities governed by the Mining Law of 1872 to prevent UUD, as defined at 43 CFR 3809.5, including when necessary to meet the performance standards in 43 CFR 3809.420(b)(7). Through the land use planning process, the BLM identifies any terms, conditions, or other special considerations needed to protect other resource values while conducting activities under the operation of the Mining Law of 1872 (BLM Handbook H-1601-I, Appendix C, p. 25). However, operators are required to comply with land use planning provisions only to the extent consistent with the mining laws (43 CFR 3809.420(a)(3)).

The BLM implements land use planning decisions differently with respect to uses related to or authorized under the Mining Law of 1872, whether or not such uses occur on mining claims and sites. This difference is how land use planning applies to authorizations under the Mining Law in no way tied to “valid existing rights” in a particular mining claim or site, but rather stems from the language of section 302(b) of FLPMA which specifically states that it does not amend the Mining Law, except in the four ways stated, none of which is land use planning. See 43 USC 1732(b). For this reason, operators are required to comply with land use planning provisions only to the extent consistent with the mining laws. 43 CFR 3809.420(a)(3).

The BLM recognizes that it has limited authority to impose conditions on certain uses related to the Mining Law of 1872 through land use planning decisions. Accordingly, the BLM will apply management actions in the ARMPA only to the extent that they are consistent with the Mining Law and BLM’s regulations. This does not require BLM to first make a determination of whether a mining claim constitutes a “valid existing right,” including whether the mining claimant has made a discovery of a valuable mineral deposit as of the date of the ARMPA, or any other time.

The BLM can only accept voluntary compensatory mitigation, regardless of what the State recommends. As it relates to locatable minerals, the BLM could only apply mitigation against the UUD standard.

### **S-3.2.11 Lek Buffers**

**Summary:** Commenters asserted that the description and use of lek buffers is inconsistent among states in the DSEISs.

**Response:** The BLM has reviewed new information and science to support its reconsideration of how lek buffers are applied across the range of Greater Sage-Grouse. In some cases, local information and public comment has helped inform the appropriate analysis resulting in different proposed actions across BLM states.

### **S-3.2.12 Data and Science**

**Summary:** Commenters felt that the DSEIS includes a summary of range-wide population declines through 2011 (at 3-2), but fails to include information about subsequent declines since that time.

Commenters specifically pointed out that in Idaho, Greater Sage-Grouse numbers have dropped 52 percent since 2016.

**Response:** Page 3-5 of the DSEIS describes those areas where triggers have been tripped, either as a result of population declines or habitat declines for Greater Sage-Grouse.

### **S-3.2.13 Sage-Grouse**

**Summary:** Commenters pointed out that in the DSEIS, the BLM described grazing is as a secondary threat, but asserted that it can have high intensity impacts locally.

**Response:** The BLM recognizes that improper grazing can be a threat to Greater Sage-Grouse, and analyzed the threats appropriately in the DSEIS. Further, the BLM provides management actions for grazing in Greater Sage-Grouse habitat in the DSEIS.

### **S-3.2.14 Livestock Grazing**

**Summary:** Commenters felt that the DSEIS does not sufficiently analyze the impacts of the changes from the 2018 FEIS to the 2020 DSEIS, specifically with respect to thresholds and responses in grazing permit renewals, requirements that PHMA be prioritized, and habitat objectives.

**Response:** IM 2018-23, Incorporating Thresholds and Responses into Grazing Permits/Leases, clarifies the relationship of the Greater Sage-Grouse habitat objectives table, land health standards, and thresholds and responses in grazing permits or lease terms and conditions.

**Summary:** Commenters asserted that on page 3-7 of the DSEIS, the BLM failed to analyze and disclose current conditions related to livestock grazing in the project area.

**Response:** The BLM acknowledged that there have been changes to the landscape since 2015; however, due to the scale of the analysis in the 2019 planning process and the 2020 DSEIS, data collected consistently across the range indicate that the extent of these changes to the landscape are relatively minimal. For example, BLM monitoring data collected and analyzed annually at the BSU scale, as outlined in the Greater Sage-Grouse Monitoring Framework indicate that there has been a minimal overall increase in estimated disturbance within PHMA. Moreover, there has been an overall decrease in sagebrush availability in PHMA within BSUs. Based on available information, including the USGS reports, the BLM concluded that the existing condition was not substantially different from that which existed in 2015; therefore, the data and information presented in the 2015 Final EISs were incorporated by reference into the 2018 RMPAs/EISs and the DSEIS. Where notable changes to the baseline condition changed, a discussion was included.

### **S-3.2.15 Solid Minerals**

**Summary:** Commenters felt that the BLM did not adequately analyze the impacts of RDFs, buffers, and disturbance and density caps on solid minerals in the DSEIS.

**Response:** The impacts of changes to RDFs, Buffers, and density cap are analyzed as appropriate in Chapter 4 of the DSEIS. Where impacts are not substantially different from those disclosed in the 2015 Final EIS, the impact analysis from 2015 has been incorporated by reference.

**Summary:** Commenters called for the BLM to consider foreseeable future phosphorus mining and prospecting an existing right and provide an allowance for these activities.

**Response:** Managing for multiple uses is important to the BLM; existing leases provide a right to reasonable development of the lease. However, the possibility of future leasing does not convey a right.

### **S-3.2.16 Wild Horses and Burros**

**Summary:** Commenters opposed the modification of MD WHB 3 because it is inconsistent with the Wild and Free Roaming Horse and Burro Act as it allows wild horses and burros to be unlawfully managed outside of herd management areas.

**Response:** MD WHB 3 prioritizes wild horse and burro gathers and population growth suppression techniques within herd areas overlapping PHMA that are occupied by wild horses and burros, but not allocated as herd management areas. The next priority for wild horse and burro gathers and population growth suppression techniques is herd management areas across Greater Sage-Grouse habitat in Idaho. In either case, removals may be necessary in other areas to address higher priority environmental issues, including herd health impacts. It is within the BLM's authority to gather and otherwise control wild horse and burro populations wherever they occur.

## **S-3.3 RANGEWIDE COMMENT EXCERPTS**

### **S-3.3.1 Range-wide**

State-level approaches to managing sage-grouse differ substantially across the range of the species. While some of these programs have been evaluated for effectiveness at statewide or smaller scales, other state plans are untested. Further, the potential collective effectiveness of these programs has not been examined, and the BLM provides no assessment of broad-scale applicability of these programs to meet the management goals the agency has established for itself. It is critical that the BLM evaluates the local programs it relies on and aligns only with programs that rigorously demonstrate that the conservation efforts collectively have a high probability of maintaining the long-term viability of sage-grouse populations across the range of the species.

### **S-3.3.2 Purpose and Need**

There is no need to undertake the massive effort and expense of a totally new planning process. We urge the BLM to complete the 2020 DSEISs and issue a new record of decision based on the 2015 and 2019 NEPA analyses, as supplemented, rather than initiate a new land use planning process to consider new alternatives or information.

### **S-3.3.3 Issues**

The 2019 plan amendments fail to provide adequate protections for sage grouse habitats from mineral development, livestock grazing, renewable energy development, range improvement structures, recreational facilities (including motorized trails), transmission lines, and other permitted activities, and also fail to consider reasonable alternatives to add science-based protections to avoid or minimize these impacts

BLM has failed to take a hard look at noise impacts to sage-grouse, and the resulting noise restrictions are scientifically invalid. We raised this issue in earlier comments and protests on all the plans (see

Appendices B-K) and provided the relevant science supporting our claims. The DSEISs persist in allowing noise levels that will be harmful to sage-grouse.

BLM made no effort at all to analyze the impacts of noise on sage-grouse in PHMA in the FEISs; it makes the same mistake in the DSEISs. See Idaho DSEIS at 4-30; Wyoming DSEIS at 4-98. There is no analysis of the impacts of allowing limitless noise during the breeding and nesting seasons. There is no analysis of the impact of disturbing and stressing sage-grouse using habitats that surround leks, or of the magnitude of impact of displacement, reduction of nest success or brood success, and potentially lek abandonment that would result from daytime noise authorized within PHMA, IHMA, and GHMA. There is also no analysis on the effects of allowing noise greater than 25 dBA by failing to set baseline levels at natural ambient noise levels that have been empirically established. Indeed, if there is already human-caused noise at a lek site, and this noise level becomes the new ambient baseline (which is permitted under the wording of the DSEIS), then noise levels could be authorized to steadily creep upward until surrounding habitats and leks are abandoned by grouse. But the DSEISs do not disclose this, because the DSEISs do not make a good-faith effort to take a hard look at the impacts of noise, and instead perpetuates the problems of the FEISs..

#### **S-3.3.4 Range of Alternatives**

The document only analyzes 2 alternatives -- a no-action alternative and the Management Alignment Alternative. This is an inadequate range of alternatives, particularly as one of them is "Do-nothing".

There is an inadequate range of alternatives – only 2 were actually analyzed: No Action Alternative and the Management Alignment Alternative

In the 2019 Plan Amendments, there were two alternatives, but one - the "No Action" alternative - was not actually an alternative, since the BLM concluded that it would not meet the stated purpose and need. Similarly, while BLM purported to incorporate its evaluation of alternatives from the 2015 Sage-grouse Plans, those alternatives also did not meet its purpose and need for the 2019 Amendments. The court found: "Common sense and this record demonstrate that mid- range alternatives were available that would contain more protections for sage grouse than this single proposal." *WWVP v. Schneider*, 417 F.Supp.3d at 1332. The court found that BLM must consider reasonable alternatives, including mid-range alternatives that would contain more protections for sage grouse than the "Management Alignment Alternative." *Id.* Nonetheless, in the Draft Supplemental EISs, BLM declines to consider any new alternatives and continues its commitment to the only action alternative in the 2019 Amendments. With respect to other alternatives, BLM states that "all of the previously analyzed alternatives, including one proposing constraints stricter than the current management plan, were predicted to result in a loss of development opportunities on public lands," which is in conflict with the goals and purpose of SO 3353 to "promote habitat conservation, while contributing to economic growth and energy independence." Oregon Draft SEIS, p. 2-3. Clearly, BLM is not evaluating the alternatives from the 2015 Sage-grouse Plans or any other alternatives. Rather, the agency is just re-explaining an approach that the court has already rejected. The range of alternatives is "the heart of the environmental impact statement." 40 C.F.R. § 1502.14. NEPA requires BLM to "rigorously explore and objectively evaluate" a range of alternatives to proposed federal actions, including considering more environmentally protective alternatives and mitigation measures. See 40 C.F.R. §§ 1502.14(a) and 1508.25(c); see also, *Kootenai Tribe of Idaho v. Veneman*, 313 F.3d 1094, 1122-1123 (9th Cir. 2002) (and cases cited therein)

In this new DSEIS, the BLM has added nearly 300 pages of analyses of alternatives. However, these alternatives were considered in the 2015 LUPA process and decision, and not considered as alternatives in the 2019 RMPA process or in this DSEIS process. It is unclear how including these alternatives will cure the likely NEPA violation described in the Preliminary Injunction. "The stated goals of a project necessarily dictate the range of 'reasonable' alternatives. Id. An agency need not consider alternatives that are 'unlikely to be implemented or those inconsistent with its basic policy objectives.' Id" 13 Presumably this set of alternatives, like the No Action Alternative would not comport with the purpose and need of the 2019 RMPA because the 2019 RMPA purpose and need comports with new science and new policy implemented after the 2015 effort.

The DSEISs defend the failure to consider a range of alternatives in the 2018 FEIS by citing back to the 2015 plans' range of alternatives. See, e.g., Idaho DSEIS at ES-4; NV/CA DSEIS at 2-1 to 2-3. But the DSEISs fail to explore the differing contexts of the 2015 and 2018 plans, including the decrease in sage-grouse populations since the 2015 plans and the 2.4 million acres of new oil and gas leases the 3,570 new drilling permits in designated sage-grouse habitat allowed between January 2017 and March 2019. The "No Action" alternative has thus changed significantly since 2015.

BLM's regulations require BLM to "develop several complete alternatives for detailed study" in land-use planning. 43 C.F.R. § 1610.4-5. BLM cannot legitimately claim that it "considered" all of the alternatives evaluated during the 2015 Plan Amendment NEPA process. BLM eliminated these from reconsideration in 2019 because they "were predicted to result in a loss of development opportunities." See e.g., ID 831-33.11. Alternatives not considered in detail cannot be used to meet the agency's obligations to "rigorously explore" alternatives. Moreover, the Ninth Circuit has flatly rejected the approach of "incorporating" previously considered but rejected alternatives. See *Sierra Forest Legacy v. Rey*, 577 F.3d 1015 (9th Cir. 2009); *Sierra Forest Legacy v. Sherman*, 646 F.3d 1161 (9th Cir. 2011).

ICA believes that when the BLM conducted their analysis for the 2019 RMP, they considered a reasonable range of alternatives. During that process, they also referenced the alternatives that were extensively analyzed in the 2015 planning process. The DSEIS accurately justifies this process and underscores that a reasonable range of alternatives were presented and adequately analyzed.

### **S-3.3.5 New Alternative**

We have repeatedly proposed a number of reasonable alternatives and BLM should evaluate them and others. As part of addressing the court's ruling, BLM should consider the alternatives we have proposed, including: \* An alternative that is explicitly focused on enhancing cooperation with the states while conserving, enhancing and restoring sage-grouse habitat. We submitted a proposed alternative that would accomplish these goals, set out in detail in Attachment 1 to Exhibit 2 (our overarching comments), incorporated herein by reference. \* Alternatives to complete additional analysis of net conservation gain and Sagebrush Focal Areas (SFA), which the 2019 Amendments eliminated in some states. \* An alternative to maintain SFAs without the previously-proposed mineral withdrawal, while considering how application can be better coordinated with the states. \* An alternative to strengthen criteria and restrictions for waivers, exceptions and modifications to lease stipulations. \* An alternative to strengthen the approach to prioritizing oil and gas leasing and development outside habitat.



### **S-3.3.6 Alternatives - Other**

BLM claims to have incorporated by reference alternatives from the 2015 ARMPA EIS process, and to have "Fully Analyzed" these alternatives, along with others, in the DSEIS. Table 2-2, Idaho DSEIS at 2-19; Table 2-2, Wyoming DSEIS at 2-13; NV/CA DSEIS at 2-9 to 2-12 (Table 2-2a); Northwest Colorado DSEIS at 2-5 (Table 2-1). This table is immediately followed by Table 2-3, "Detailed Comparison of 2019 Alternatives," in which only a No Action Alternative, the Management Alignment Alternative, and the Proposed Plan (essentially identical to the Management Alignment alternative) are described. Idaho DSEIS at 2-23; Wyoming DSEIS at 2-28; NV/CA DSEIS at 2-16; Northwest Colorado DEIS at 2-9 (Table 2-2). The Management Alignment Alternative and Proposed Plan are so similar that BLM provides a single, common impacts analysis for both, with no differentiation between the effects of the two alternatives. See Wyoming DSEIS at 4-91. Thus, the 2019 plan amendment EIS considers basically two alternatives: a No Action alternative (which would leave the 2015 Plan Amendment, with all its weaknesses and inadequacies, unchanged), and the Management Alignment/Proposed Plan alternative, which the agency ultimately adopted and which significantly weakened sage-grouse habitat protections provided under the 2015 plan amendment. This Management Alignment alternative is designed to make federal sage-grouse protections mirror state policies.

### **S-3.3.7 Data and Science**

The Winmill Decision reinstates the 2015 Plans, and BLM has stated that it is accordingly implementing the 2015 Plans in the affected states.<sup>3</sup> Consequentially, the need to address and correct the scientific flaws that originated in the 2015 Plans and carried forward to the 2019 Plans has become even more urgent.

The 2015 Plans ignored the full spectrum of on-point, more recent science currently available, and instead relied upon biased and outdated science. Namely, BLM relied on several outdated and faulty reports: the National Technical Team ("NTT") Report, the Conservation Objectives Team ("COT") Report, the Comprehensive Review of Ecology and Conservation of the Greater Sage Grouse: A Landscape Species and its Habitats ("the Monograph"), and the "Conservation Buffer Distance Estimates for Greater Sage-Grouse-A Review" (the "Buffer Report")<sup>4</sup>(collectively "the Reports."). <sup>4</sup> Daniel J. Manier, et al., Conservation Buffer Distance Estimates for Greater Sage-Grouse-A Review, U.S. GEOLOGICAL SURVEY OPEN-FILE REPORT 2014-1239 (2014), <http://dx.doi.org/10.3133/ofr20141239>.

The Reports erroneously ignore accurate population data and adopt methodologically- flawed modeling approaches that have consistently failed to accurately predict populations. This selective use of science is wholly misleading, and assumes GRSG populations are in decline despite evidence to the contrary. More specifically, the Reports ignore natural population fluctuations; single out human-driven activities for alleged declines; and, again, overlook actual threats to GRSG such as weather, predation, and hunter harvest-primary drivers of GRSG population changes (in contrast to anthropogenic disturbance) (see Blomberg et al. 2014<sup>9</sup> Guttery et al. 2013<sup>10</sup>, and Ramey et al. 2018<sup>11</sup>). Other factors not seriously considered were raven predation (see, e.g., Coates et al. 2016<sup>12</sup>) and hunter harvest at times of the year and during life stages when GRSG are most vulnerable (see, e.g., Blomberg et al. 2015<sup>13</sup>; Caudill et al. 2017<sup>14</sup>). It is worthwhile to note that GRSG hunter harvest reports from the states of Colorado, Utah, Wyoming, Montana, Oregon, Nevada, and California show a take of approximately 129,095 birds between 2000 and 2018. <sup>9</sup> Erik J. Blomberg, et al., Carryover Effects and Climatic Conditions Influence the Postfledging Survival of Greater Sage-Grouse, 4(23) ECOLOGY & EVOLUTION, 4488-4499 (2014),

<https://doi.org/10.1002/ece3.1139>. 10 Michael R. Guttery, et al., Effects of Landscape-Scale Environmental Variation on Greater Sage-Grouse Chick Survival, 8(6) PLoS ONE e65582 (2013), <https://doi.org/10.1371/journal.pone.0065582>. 11 Rob Roy Ramey II, et al., Local and population-level responses of Greater sage-grouse to oil and gas development and climatic variation in Wyoming. PeerJ 6: e5417 (2018), <http://doi.org/10.7717/peerj.5417>. 12 Peter S. Coates, et al., Landscape characteristics and livestock presence influence common ravens-Relevance to greater sage-grouse conservation: ECOSPHERE, v. 7, no. 2, article e01203, 20 p., <https://doi.org/10.1002/ecs2.1203>. 13 Erik J. Blomberg, et al., The influence of harvest timing on greater sage-grouse survival-A cautionary perspective: J. OF WILDLIFE MANAGEMENT, v. 79, no. 5, p. 695-703 (2015). 14 Danny Caudill, et al., Individual heterogeneity and effects of harvest on greater sage-grouse populations: J. OF WILDLIFE MANAGEMENT, v. 81, no. 5, p. 754-765 (2017).

the Reports themselves were premised on a faulty bias-the presumption that GRSG populations are in decline due to disturbance from various land use activities, of which oil and gas development was allegedly a primary factor. The NTT Report also failed to acknowledge lower impact technologies and mitigation that emerged and became the standard in the oil and gas industry around 2005, such as hydraulic fracturing and directional drilling. These modern technologies, along with 3-D and 4-D remote-sensing of underground hydrocarbon reservoirs and other developments, have radically minimized disturbance compared to the practices in use just a decade or more previously which were reviewed by the studies cited by the Reports.<sup>15</sup> See Rob Roy Ramey II, et al., Oil and Gas Development and Greater Sage Grouse ("Centrocercus urophasianus"): A Review of Threats and Mitigation Measures, 35 (1/2) J. OF ENERGY AND DEV., 49-78 (2011)

GRSG research published since 2015 is "extensive and collectively supersedes the NTT and COT reports." See Exhibit A at 1; see also Exhibit A-I. Much of the new research has occurred thanks to improvements in: estimating seasonal habitat, modeling population trends in light of climate variables, and determining causality behind predation and disturbances. Further, new science has shown that GRGS dispersal is much more expansive than was thought prior to 2015, both in distances flown and dispersal frequency. In addition, improved means of mitigation and habitat recovery have decreased overall GRSG disturbances. In sum, the scientific understanding of GRSG populations and how various factors affect said populations has advanced far beyond the biased and limited work upon which the 2015 Plans (and, to a certain extent, the 2019 Plans) rely.

Since 2005, studies have analyzed large-scale climatic fluctuations and the resulting effects on inland species, including GRSG. Notably, research has emphasized the impacts sea surface temperature variations in the North Pacific Ocean have on GRSG populations due to the resulting climatic patterns. The PDO is one of several climate indices useful in estimating population responses. Ramey et al. 2018. In sum, GRSG populations experience cyclic fluctuations "linked to patterns of temperature and precipitation. . .which affect reproduction and survival...." Exhibit B at 1. To maintain accuracy, any land use plans must take into account large-scale climatic fluctuations and GRSG population responses.

GRSG populations fluctuate naturally due to "population density feedbacks affect[ing] population growth rate" and "inter-annual and multi-decadal variation in large-scale regional weather patterns." See Exhibit D at 1. Therefore, any research which calculates population estimates in terms of the effect of anthropogenic activities must also account for population changes resulting from these natural factors. Furthermore, changes to one GRSG lek population may affect nearby leks. Id. at 2. Ideally, population

modeling should incorporate data from unrelated leks (to function as a control group) and data regarding effects from climate changes and density feedbacks. We urge BLM to consider usage of a stage-based population dynamic model. "The advantages of stage-based population dynamic models are that multiple sources of information for different life-stages and sexes including prior information from previous analysis can be readily incorporated while lags are readily accounted for thus providing tighter linkages between population drivers and lek counts." Id. This will bring sage grouse management into the contemporary realm of real-time population modeling.

Mathematical Error in Edmunds et al. 2017<sup>16</sup> Managers must be cognizant of errors scientific papers that can compromise results and interpretations, even if identified and "corrected" later. We highlight here, a paper by Edmunds et al. (2017) that found that "populations in 5 of the 8 working group[s] in Wyoming] significantly declined ( $\chi^2 < 1$  with  $p < 0.05$ ) between 1993 and 2015; and 2) that [sub]populations within working groups can follow different trends." See Exhibit E at 1. However, Edmunds et al. later published an erratum (Edmunds et al. 2018)<sup>17</sup> finding that the mathematical calculations were incorrect, thereby invalidating their first conclusion: that the populations in 5 of the 8 working group significantly declined ( $\chi^2 < 1$  with  $p < 0.05$ ) between 1993 and 2015. However, they authors did not state that needed change to the text of their erratum. Thus, managers could easily misinterpret the conclusions as valid, when they are not. Beyond this issue, a central failure of many past papers (including those cited by the Reports), is that they do not account for population-wide temporal oscillations (i.e., those driven by climatic variation/weather). Moreover, analyzing subpopulation-level differences in trends merely adds noise to analyses. <sup>16</sup> David R. Edmunds, et al., Greater sage-grouse population trends across Wyoming: WY Sage-Grouse Population Viability Analysis. J. WILDLIFE MANAGEMENT, 82(2): 397-412 (2017), <http://doi.org/10.1002/jwmg.21386>. <sup>17</sup> David R. Edmunds, et al., Erratum-Greater sage-grouse population trends across Wyoming. J. WILDLIFE MANAGEMENT, 82(8):1808 (2018).

The agency should emphasize the use of locally-collected monitoring and transparent assessment data and the continued development and integration of local data and information, peer-reviewed science (with publicly-available data), and other high quality information.

The Counties urge BLM to consider innovative new tools, such as the use of unmanned aerial vehicles with infrared sensing, and new statistical approaches to undertake more accurate population counts.

Federal population targets and triggers are inappropriate and unwarranted. First, local governments may have better information. Second, wildlife management is a state issue. To the extent population numbers are utilized, the BLM should rely upon state and local population data

It is vital that the BLM develop processes to use data from a variety of sources, including peer-reviewed journals with associated data, agency data, and local collected partner information. BLM should also rely upon locally-relevant science and data to inform implementation of management actions, data sharing, and the development of methods to gather and use local and traditional ecological knowledge. BLM must review and consider the DQA Challenges with respect to the Reports underpinning the land use plan amendments and the GRS listing decision and revise its planning documents and decisions appropriately. The Counties strongly support peer review, transparency and reproducibility in regards to science as well as the relevance to local conditions. Had BLM recognized the flaws brought to bear in the Challenges and new science available, the Winmill Decision may have turned out differently.

Sage-Grouse populations have declined precipitously over the past three years; The Draft SEIS's do not take into account the significant declines (30-60 percent) in Sage-Grouse populations in all 7 states over the past 3 years (2016-19) California – reduced 3.86 percent/year since 1999 (60 percent total) Montana – 40 percent reduction since 2016 Oregon – the lowest population levels ever recorded; 28% loss in one year Idaho – 52 percent reduction since 2015 Nevada – one third reduction since 2016 Wyoming – 44 percent reduction since 2016 Utah – 61 percent reduction since 2015 Colorado – 5 out of 6 leks showed a 69 percent reduction since 2016

The draft EIS does not mention or take into account that all 7 states where populations were monitored from 2016 to 2019 showed significant population declines ranging from 30% to over 60% decline.

The Draft SEIS's do not take into account the significant declines (30-60 percent) in sage-grouse populations in all 7 states over the past 3 years (2016-19)

On a related note, DNR encourages the BLM to consider the most recent available data in its analyses in future versions of this supplemental review process. We note, for instance, that Section 3.3 in the 2020 DSEIS, Changes to Affected Environment Since 2015, replicates the same section from the 2018 PRMPA/FEIS, which considered 2014-2017 data in calculating the 3-year average High-Male Count (HMC) used to estimate GrSG populations. Subsequent revisions to this EIS should examine data from the previous two years (2018-2019) when calculating the most recent 3-year average HMC. In addition, the BLM mentions Reasonably Foreseeable Actions as an item to be clarified in the 2020 DSEIS, but the document does not take any new information into account in its analysis. 20 Future EIS revisions or planning decisions should incorporate updated data, recent events, BLM actions, new plans and decisions, revised regulations, etc., when presenting reasonably foreseeable scenarios both in the evaluation of cumulative or other environmental effects and in consideration of changed conditions that could warrant new review (see Appendix 2, Section 2.1, Table 1, Rangewide Impacts from Past, Present, and Reasonably Foreseeable Actions). For example, a recent report suggests a significant increase in the rate of fluid mineral leases issued within GHMA and PHMA under the 2015 CO GrSG RMPA, as compared to in recent years.<sup>21</sup> 20 DSEIS, I-13. 21 National Audubon Society, Oil and Gas Leasing on Federal Lands and in Sage Grouse Habitats: October 2015 through March 2019 (July, 2019), Tables 2-4.

Improved Prioritization of GRSG Management Author: Doherty et al. Year: 2016 Title: Importance of regional variation in conservation planning-A rangewide example of greater sage-grouse: Ecosphere, v. 7, no.10, article e01462, 27 p. Implications: Improved spatial population models show overlap of habitats, populations, conservation actions, and threats. Threats to, or conservation actions in, these hotspots could affect a large proportion of GRSG populations. Thresholds in vegetation cover types, disturbance, and other factors varied spatially, so results from one location may not extrapolate to other locations. GRSG in MZ VI (Columbia Basin) and MZ I (Northern Great Plains) appeared to diverge in functional habitat selection from other MZs. The authors emphasize the large spatial scale of this analysis and that on-the-ground management actions may need to be informed by analyses at smaller spatial scales. Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement; Conservation planning Significance: Management prioritization, improved methodology Comments: Underscores the fact that a one-size fits all approach is inappropriate.

Improved Prioritization of GRSG Management Author: Chambers et al. Year: 2016 Title: Using resilience and resistance concepts to manage threats to sagebrush ecosystems, Gunnison sage-grouse, and greater sage-grouse in their eastern range-A strategic multi-scale approach: U.S. Department of Agriculture,

Forest Service, Rocky Mountain Research Station, General Technical Report RMRS-GTR-356, 143 p., Implications: "This [USDA] report provides a strategic approach developed by a Western Association of Fish and Wildlife Agencies interagency working group for conservation of sagebrush ecosystems, Greater sage-grouse, and Gunnison sage-grouse. It uses information on (1) factors that influence sagebrush ecosystem resilience to disturbance and resistance to nonnative invasive annual grasses and (2) distribution and relative abundance of sage-grouse populations to address persistent ecosystem threats, such as invasive annual grasses and wildfire, and land use and development threats, such as oil and gas development and cropland conversion, to develop effective management strategies." Areas for targeted management are assessed by overlaying matrix components with Greater sage-grouse Priority Areas for Conservation and Gunnison sage-grouse critical habitat and linkages, breeding bird concentration areas, and specific habitat threats. Decision tools are discussed for determining the suitability of target areas for management and the most appropriate management actions." Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement; Conservation management Significance: Prioritization of management; Provides a holistic approach to managing threats, conservation, and restoration. Comments: Caveat: long-term projections based on untestable Global Circulation Models

Improved Prioritization of GRSG Management Author: Chambers et al. Year: 2017 Title: Science framework for conservation and restoration of the sagebrush biome: Linking the Department of the Interior's Integrated Rangeland Fire Management Strategy to long-term strategic conservation actions. Part I. Science basis and applications: Geno. Tech. Rep. RMRS-GTR-360. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. p. 213. Implications: This comprehensive report provides the scientific basis and applications for the DOI's Conservation and Restoration Strategy for sagebrush ecosystems. As such, it is a highly influential document. The Science Framework is intended to "help prioritize areas for management and determine the most appropriate management strategies. The Science Framework is based on: (1) the likely response of an area to disturbance or stress due to threats and/or management actions (i.e., resilience to disturbance and resistance to invasion by nonnative plants), (2) the capacity of an area to support target species and/or resources, and (3) the predominant threats." Supersedes NTT: Yes Supersedes COT: Yes Issue: Comprehensive conservation strategy. Significance: Likely highly influential document. Comments: Additional review suggested.

Improved Prioritization of GRSG Management Author: Chambers et al. Year: 2017 Title: Using resilience and resistance concepts to manage persistent threats to sagebrush ecosystems and greater sage-grouse: Rangeland Ecology and Management, v. 70, no. 2, p. 149-164. Implications: From the paper's conclusions: "We successfully operationalized resilience and resistance concepts in a risk-based framework to help managers reduce persistent threats to a species of high concern in one of the largest terrestrial ecosystems in North America. By linking our understanding of sagebrush ecosystem resilience to disturbance and resistance to invasive annual grasses to sage-grouse distribution and habitat requirements, we provided a means for decision makers to strategically allocate resources and triage complex problems. This approach offers an innovative decision support system to address the needs of at-risk species in the context of dynamic and adaptive ecosystems. We believe this approach is applicable to species conservation in other largely intact ecosystems with persistent, ecosystem-based threats such as invasive species and altered disturbance regimes." Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement; identification of threats; conservation triage Significance: Improved methodology and prioritization of management Comments: Utilize an operational definition of resistance and resilience.

Improved Prioritization of GRS Management Author: Crist et al. Year: 2019 Title: Science framework for conservation and restoration of the sagebrush biome: Linking the Department of the Interior's Integrated Rangeland Fire Management Strategy to long-term strategic conservation actions. Part 2. Management applications. Gen. Tech. Rep. RMRS-GTR-389. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 237 p. Implications: The strategic, long-term, multiscale approaches described in this report, as well as associated tools, will aid resource managers in implementing on-the-ground management actions in the sagebrush biome. Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement Significance: Prioritization of management. Likely highly influential. Comments: Additional review suggested.

PAW maintains the NTT Report does not represent the best available science as it relates to oil and gas impacts to sage-grouse habitat. The technological improvements associated with oil and gas development also reduced the threats of oil and gas as outlined in the COT Report. BLM should not solely rely on these documents when forming oil and gas stipulations and conservation measures. We are encouraged that BLM included a review of these Reports and analyzed their relevance to the planning process in Appendix F to the Draft SEIS.

PAW supports the analysis provided in the Draft SEIS, particularly as the 2015 ARMPAs analyzed impacts that were as a result of previous technological techniques and the science does not reflect the significant changes that have taken place over the past decade. Specifically, the timeframe of the research included in the NTT and COT Reports predates significant technological advancements that have taken place in the oil and gas industry during that timeframe. These advancements have played a dramatic role in reducing well pad and road density and disturbance associated with oil and gas development.

the NTT report failed to recognize that the level of disturbance and activity associated with a well is not constant throughout its life. The highest level of surface disturbance associated with oil and gas development occurs during the construction, drilling and completion phases, which can last up to a few months, depending upon the time it takes to complete the well. Once production ensues, these activities subside dramatically, especially with the increased use of remote monitoring of oil and gas operations. Shortly after well completion, the operator normally begins interim reclamation to restore any impacted habitat that is not being used. This interim reclamation remains in effect until the well has been depleted. Upon conclusion of production activities, the operator will then move forward with plugging and abandonment procedures, which also includes final reclamation that will ultimately result in full restoration of the site and its return to productive habitat.

they believe that a wide variety of peer-reviewed publications which collectively provide the best available science for sage-grouse should form BLM's basis for conserving the species. They went on to recommend that management and regulatory mechanisms be centered upon the best available science which would provide the best strategy for near- and long-term management of sage-grouse and provide the best opportunity for precluding a listing under the Endangered Species Act (ESA).

Based upon these new documented findings, the assumptions contained in the NTT are incomplete. They are predicated upon widespread development of oil and gas using tightly spaced vertical wells and, therefore, result in inaccurate hypothesis that oil and gas development "impacts are universally negative and typically severe."

More importantly, new science and new technology in the deployment of oil and gas development indicates impacts to sage-grouse will be significantly lower than those described in the NTT Report.

The 2015 plans resulted from years of negotiations between ranchers, scientists, state and Federal agencies, and the conservation community. It is a science based plan that was agreeable to all the stakeholders. It led to the USFWS withdrawing its plan to list the species under the Endangered Species Act. If the 2015 plan is NOT adopted, I feel that the Greater Sage-Grouse SHOULD be listed under the Endangered Species Act

Similarly, while BLM refers to its reliance on "best available science," that is not defined or explained in the Draft Supplemental EISs. In fact, as discussed in detail in a June 2018 letter submitted by numerous sage-grouse scientists recognized as experts in this field, the 2019 Amendments were contrary to the best science. See, June 2018 Sage-grouse scientists letter, attached as Exhibit 3.

BLM is also obligated to evaluate "significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts" through supplemental NEPA. 40 C.F.R. § 1502.9(c)(ii). There are significant new circumstances and information that BLM must take into account, some of which we have repeatedly highlighted in previous comments and protests but have continued to intensify. These are discussed in detail in a letter from expert sage-grouse scientists, attached as Exhibit 4. Sage-grouse populations have been declining and this trend has become even more concerning. As noted in the attached sage-grouse scientists' letter, state-level data indicates sage-grouse populations have declined 44% on average over the last four years, with estimated statewide declines in strongholds of between 33% and 52% in Oregon, Idaho, Nevada, Montana, and Wyoming. BLM must take these losses and the continued projected declines into account in evaluating the impacts of the proposed changes to the 2015 Sage-grouse Plans.

Specifically, the DSEIS does not update the No Action Alternative using the best available science. It remains based on analysis that was not comprised of the best available science and includes outdated and improper habitat mapping, 15 an issue that this County and others repeatedly explained throughout the RMPA process.<sup>16</sup> As the Court pointed out in its October 2019 decision, "In order to be adequate, an environmental impact statement must consider 'not every possible alternative, but every reasonable alternative.'"<sup>17</sup> The No Action Alternative, as it is currently presented and analyzed, is not a reasonable alternative as it fails to include the best available science or comport with current BLM policy. A possible solution therefore is for BLM to update the science behind the No Action Alternative so that it is current with the science used in the Management Alignment Alternative. The County hopes that the BLM will update the science of the No Action Alternative in order to demonstrate how the preferred alternative better aligns with the BLM's stated policy goals and the conservation of Sage-grouse.

Chapter 5, Consultation and Coordination, does not indicate any coordination or consultation with other Federal (USFWS, USGS) or state agencies, who maintain scientific expertise on both sage-grouse and sagebrush habitat. Without consultation with these scientific experts, the conclusions of this document on potential impacts to the Greater sage-grouse lack scientific credibility.

The Idaho District court granting the motion to preliminarily enjoin the 2019 plans relies in large part on the assumption that the 2015 plans were based on the sound science, specifically the findings and suggestions contained in the 2011 National Technical Team (NTT) and 2013 Conservation Technical Team (COT) Reports.<sup>11</sup> The Idaho District Court incorrectly assumed in its decision that the NTT and

COT reports represent the best available science, and therefore, any deviation from these reports amounts to an unjustified reduction in protection for the Sage Grouse.<sup>12</sup> This reliance on the NTT and COT Reports is misplaced. <sup>11</sup> See *Western Watersheds Project et al v. Schneider et al*, Case No. CV-00083-BLM, 2019, at 11, 17. (D. Idaho Oct. 16, 2019). <sup>12</sup> *Id.* The 2011 NTT Report and the 2013 COT Report did not receive adequate peer review and suffered from a number of substantive flaws including: ignoring substantial threats such to the Greater Sage Grouse such as predation in favor of unsupported conjectures regarding human impact; failure to account for natural population fluctuations due to weather patterns; not using the best available science, and were policy rather than science driven. These flawed reports suggested the adoption of equally flawed measures that became central to the 2015 planning effort including the designation of Sage Brush Focal Areas (SFAs) and the establishment of lek buffers.

the application of lek buffer distances was integrated into another document previously not available or included in the DEIS for public review: a U.S. Geological Survey (USGS) report entitled *Conservation Buffer Distance Estimates for Greater Sage-grouse - a Review*, USGS Open File Report 2014 1239. Both SFAs and lek buffer distances were allowed to evolve from the NTT and COT reports into the 2015 plans without receiving adequate review and comment and in place of utilizing existing conservation tools already available.

Although the SFAs and the lek buffers constituted substantial changes to the proposed action, no supplemental EIS was prepared to analyze them and the public was not provided an opportunity to offer input on their use as guiding elements of the 2015 land use plans. As a result, the 2015 plans did not reflect the best scientific information available to and used by the states that are home to the Greater Sage Grouse.

Sage-grouse population declines and habitat loss represent significant new environmental information that bears on the management actions established in the 2015 and 2019 sage-grouse RMP amendments. BLM must address these circumstances through supplements to the EISs used to inform those RMPs as prescribed in 40 CFR 1502.9(c)(1)(ii) of the National Environmental Policy Act (NEPA). Specifically, the regulations require agencies to: "prepare supplements to either draft or final environmental impact statements if there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts." The Draft SEISs released February 11, 2020 do not reflect the reality of these new circumstances and provide no scientific justification for the majority of BLM management decisions given the current situation. Accordingly, BLM must expand the scope of these SEISs to address this new information and set of circumstances facing sage-grouse and sagebrush habitat.

The BLM needs to expand the scope of the Draft SEISs to address new circumstances described and substantiated with recent population and sagebrush habitat trends. Expansion of the scope provides an opportunity for the BLM to more rigorously analyze and assess the direct, indirect and cumulative impacts of management decisions on sage-grouse populations and habitats. Accomplishing such assessments is entirely feasible given the expertise, data, and analytical tools currently available to the BLM. The U.S. Geological Survey (USGS) in their synthesis of relevant literature published from 2015 to 2017 describe several decision-support tools that would apply directly to such analyses. The BLM itself has developed the Assessment, Inventory, and Monitoring (AIM) strategy and the Fire and Invasives Assessment Tool (FIAT) which are expressly meant to provide the agency with analytically derived



information for making impact and habitat management decisions. Further, in each of the 2015 Final EISs the BLM included a Greater Sage-grouse Monitoring Framework which established metrics and approaches for monitoring response of sage-grouse to management actions. The data and analytical tools established in this framework are also directly applicable to analyses we suggest.

**2015 Greater Sage Grouse Plans Were Not Supported by the Best Available Science** The Idaho District court granting the motion to preliminarily enjoin the 2019 plans relies in large part on the assumption that the 2015 plans were based on the sound science, specifically the findings and suggestions contained in the 2011 National Technical Team (NTT) and 2013 Conservation Technical Team (COT) Reports.<sup>11</sup> The Idaho District Court incorrectly assumed in its decision that the NTT and COT reports represent the best available science, and therefore, any deviation from these reports amounts to an unjustified reduction in protection for the Sage Grouse.<sup>12</sup> This reliance on the NTT and COT Reports is misplaced.

we believe it is imperative that BLM clarify how the 2019 plans relied on the best available science, a critical component of the decision in the district court. As such, we request that BLM update and supplement its review of the scientific information on which it relies for conservation of sage grouse habitat and management of those federal lands. Specifically, BLM must take into account scientific information that has been developed since the reports prepared by the National Technical Team (NTT)<sup>1</sup> in 2011 and the Conservation Objectives Team (COT)<sup>2</sup> in 2013, including over 150 scientific papers and reports prepared since 2014 that are described and referenced in the materials we submit as attachments to this letter (Attachment B and F below). These reports make clear that the NTT and COT reports are no longer the best available science, contra the district court's assertion. 1 Report on National Greater Sage-Grouse Conservation Measures Produced by the BLM Sage-Grouse National Technical Team, Bureau of Land Management (Dec. 2011). 2 Greater Sage-Grouse (*Centrocercus urophasianus*) Conservation Objections: Final Report, U.S. Fish and Wildlife Service (Feb. 2013).

The Trades previously argued that BLM's reliance in the 2015 Land Use Plan Amendments (LUPAs) on the U.S. Fish and Wildlife Service's COT Report and BLM's NTT Report in determining stipulations, restrictions, and conservation measures for operations in sage-grouse country was arbitrary and capricious under the Administrative Procedures Act. The NTT Report and the COT Report failed to utilize the best available science; failed to adhere to the standards of integrity, objectivity, and transparency required by the agency guidelines implementing the Data Quality Act, and suffered from inadequate peer review (Attachment A below). The NTT Report fails to adequately support its propositions and conclusions. For example, the NTT Report provided no scientific justification for the three percent disturbance cap, which was described in the 2015 LUPAs. Rather, the disturbance cap was based upon the "professional judgment" of the NTT authors and the authors of the studies they cited, which represents opinion, not fact. The noise restrictions and required design features in the 2015 LUPAs, also recommended by the NTT report, are likewise based upon studies that relied on unpublished data and speculation, and employed suspect testing equipment under unrealistic conditions. Conservation measures based upon "professional judgment" and flawed studies do not constitute the best available science, and BLM should not have relied upon these studies or the NTT Report in the 2015 LUPAs

the NTT Report failed to cite or include numerous scientific papers and reports on oil and natural gas operations and mitigation measures that were available at the time the report was created. For example,

the NTT Report failed to cite a 2011 paper (which was made available to the NTT authors) that discusses the inadequacy of the research relied upon by the NTT Report in light of new technologies and mitigation measures designed to enhance efficiency and reduce environmental impacts

The COT Report likewise fails to utilize the best available science, and the BLM and other agencies inappropriately relied upon it in the 2015 LUPAs. The COT Report provides no original data or quantitative analyses, and therefore its validity as a scientific document hinges on the quality of the data it employs and the literature it cites. The COT Report contains serious methodological biases and mathematical errors, and the report's data and modeling programs are not public and thus neither verifiable nor reproducible. Finally, the COT Report provides a table assigning various rankings to GrSG threats, but gives no indication that any quantitative, verifiable methodology was used in assigning these ranks. Absent a quantifiable methodology, these rankings are subjective and rather than relying upon any conservation measures derived from these rankings.

more recent genetic studies with large sample sizes and data from GPS tagged birds reveal that sage grouse disperse over much greater distances than previously thought, refuting previous assumptions central to the NTT and COT reports that sage grouse dispersal was limited. These same data also refute the assumptions behind the extinction predictions by Garton et al. (2011) that were central to the COT report and the 2010 "Warranted but Precluded" ESA-listing decision. Finally, this new body of science provides extensive documentation of refined mitigation measures and habitat restoration that reduce impacts to GrSG. This dramatically improved body of research is more precise and reliable than the studies previously relied upon in the NTT and COT Reports, and other reports relied upon in the development of the 2015 LUPAs.

as the information we're submitting with this letter will describe in more detail, various advancements in operational efficiency, with secondary benefits to sage grouse, have also been implemented in exploration and production operations carried out within the GrSG range, both as voluntary efforts and as measures undertaken in compliance with regulatory requirements. These improvements in operational efficiency translate into reduced drilling and completion times, reductions in operational footprints, reduced noise and truck traffic, and therefore, reduced disturbance to sage grouse and other species. Virtually all of these innovations came after the primary and most influential studies on which the NTT and COT Reports rely were conducted (i.e. after 2006)

The Pinedale Planning area is an area in which a significant population of the GrSG occurs as well as a region within which periods of noteworthy oil and natural gas resource development have taken place during the past 100 years. Therefore, we think it is particularly important to note that another difference between past and current oil and natural gas development, particularly in the Pinedale Planning Area, has been the implementation of extensive mitigation measures designed to reduce overall impacts to sage grouse and enhance their habitat. Pinedale was the subject of many of the reports upon which the findings and conclusions of the NTT and COT Reports were based. These factors demonstrate the importance of BLM's management of these lands and lands elsewhere in the range of the GrSG being informed by the best available science (Attachment E).

What would be the most effective strategy to ensure that an effort to revise and update LUPs are not again influenced by misguided information and recommendations of the Monograph and NTT, COT, and Buffer reports? With over 150 scientific papers and reports produced on greater sage-grouse biology and conservation since 2014, a straightforward solution would be to either file new DQA challenges,

describing why the Monograph and reports are outdated and superseded by new research, or work with the BLM to help them reach the same conclusion and revise its contested RMPs accordingly

we produced our annotated bibliography as a spreadsheet (Attachment F). This spreadsheet lists: the lead author, citation, implications, whether it supersedes the NTT or COT reports, the primary issue addressed, the significance of the findings, and additional comments. We have also flagged papers for additional review because of their potential to be highly influential during the upcoming USFWS status review and land use plan revisions. After reviewing these papers, several key observations emerge: 1) The science that has been published since 2015 is extensive and collectively supersedes the NTT and COT reports. Importantly, improved methodologies such as: refined technology to estimating GRSG seasonal habitat, models that incorporate climate variables to predict population trends, and cause and effect mechanisms that drive predation or disturbance. Additionally, several recent papers document how new oil and gas technologies (i.e. directional drilling) and environmental regulations (i.e. Wyoming's Core Areas) have measurably reduced impacts to GRSG. Similarly, genetic studies with large sample sizes and data from GPS tagged birds reveal that GRSG disperse over much greater distances than previously thought, refuting previous assumptions central to the NTT and COT reports that GRSG dispersal was limited. These same data also refute the assumptions behind the extinction predictions by Garton et al. (2011) that were central to the COT report and the 2010 "Warranted but Precluded" ESA-listing decision. And finally, this new body of science provides extensive documentation of refined mitigation measures and habitat restoration that reduce impacts to GRSG. This dramatically improved body of research is more precise and reliable than the studies previously relied upon in the NTT, COT, Buffer Report, and land use plans.

We expect that anthropogenic climate change will be cited in the upcoming USFWS status review as a serious threat to sage grouse. That assessment is based on multiple papers that make long-range projections regarding the future of GRSG habitat, forward in time to 2050, 2070, and 2100. The weakness of these papers however, is three-fold. First, these papers base their long-range predictions on downscaled general circulation models (IPCC or similar) and rely on linking outputs of several models, thus multiplying uncertainty. Second, we found that at least two of these papers utilize the "unlikely high-risk future" scenarios of the IPCC Representative Concentration Pathway RCP8.5. A recent January 29, 2020 paper in the journal *Nature* pointed out the fallacy of basing predictions on such worst-case scenarios as they are highly unlikely to come true (<https://www.nature.com/articles/d41586-020-00177-3>). And third, such long-range predictions are inherently untestable as hypotheses because: a) their predictions extend far enough into the future that they exceed a typical human career span (i.e. 30 years), thus it is highly unlikely that they will ever be tested, and b) because of the fast pace of climate science, no one bothers to testing the validity of such predictions at shorter intervals in the first place. This general lack of potential falsifiability puts many climate science predictions outside the realm of empirical, testable science.

numerous papers point to a stable or not-so troubling GRSG declines to a stable equilibrium, there are a handful of authors who consistent seem to find severe, ongoing declines in the same data sets. It would be worthwhile reviewing these papers in detail to understand why this is the case. These reviews should be completed before the USFWS status review gets underway

It is well documented in the scientific literature that annual fluctuations in sea surface temperatures in the North Pacific Ocean drive multi-year variation in temperature and precipitation patterns in western

North America. The Pacific Decadal Oscillation (PDO) is an index of the sea surface temperature variation in the North Pacific Ocean that has a significant influence on temperature and precipitation patterns (<http://research.jisao.washington.edu/pdo/PDO.latest>). This regional climatic variation (i.e. periodic fluctuations in large-scale weather patterns) in turn affect marine and terrestrial plant and animal population cycles, and contributes to phenomena such as summer heat and fire frequency in the western USA. Large-scale climate indices, such as the PDO, often outperform local temperature and precipitation data in predicting population dynamics and ecological processes (Stenseth et al. 2002; Hallett et al. 2004). Multiple authors have reported that greater sage-grouse populations experience cyclic fluctuations, and that these population dynamics are linked to patterns of temperature and precipitation, or the PDO, which affect reproduction and survival (Blomberg et al., 2012, 2014, 2017; Green, Aldridge & O'Donnell, 2016; Coates et al., 2016; Gibson et al., 2017; Ramey et al. 2018). This relationship between climatic variation on population dynamics of greater sage-grouse is not surprising as there is a long and ecologically important history of studies examining the influence of climatic variation on the population dynamics of other tetraonids, including black grouse, ptarmigans, and prairie chickens. Those papers include: Moran (1952, 1954); Ranta, Lindstrom & Linden (1995); Lindström et al. (1996); Cattadori, Haydon & Hudson (2005); Ludwig et al. (2006); Kvasnes et al. (2010); Selås et al. (2011); Viterbi et al. (2015); Ross et al. (2016); Hagen et al. (2017). Significance The significance of these findings to the conservation of sage grouse, and to future land use plans in particular, are threefold: 1) State and federal agencies need to account for the predictable responses to periodic regional climatic fluctuations when managing sage grouse in Wyoming and elsewhere in the western USA in an adaptive management framework. This is especially important as the current USFS and BLM Land Use Plans for greater-sage grouse make no mention of this obviously important demographic phenomenon. 2) Policies based on population "triggers" (i.e. additional restrictions and conservation measures that are implemented when a population dips to a certain level) are flawed unless the effects of the PDO are taken into account so that natural fluctuations are not misinterpreted. Such triggers should be defined as the percent divergence from the expected carrying capacity, with the carrying capacity tracking the regional climate. Several of the current triggers will be tripped during the course of natural population fluctuations. 3) The current pattern of the PDO indicates that sage grouse populations will be at a temporary low ebb in 2020 when the US Fish and Wildlife Service conducts a status review and reconsiders an Endangered Species Act "threatened" listing

Neilson et al. (2005) were the first to hypothesize that inter-annual and inter-decadal climate variability of El Niño-La Niña (ENSO) and the Pacific Decadal Oscillation (PDO) affect sagebrush ecosystem dynamics in the Great Basin, with the PDO being the primary driver of wet-dry cycles

Fedy and Doherty (2011) Reported on the synchrony between population cycles of Wyoming cottontail rabbits (*Sylvilagus* spp.) and greater sage-grouse, and hypothesized "a broad-scale causal influence" of weather cycles affecting these species.

Blomberg et al. (2012) reported that as much as 75% of the annual variance in greater sage-grouse population size in their study area over 12 years could be accounted for with annual variation in precipitation variables. The authors concluded that, "These results are consistent with bottom-up regulation of sage-grouse populations, where abundance is determined in large part by climate-driven variation in resource availability."

Guttry et al. (2013) reported that large-scale climatic variability in Utah and Idaho plays a primary role in determining greater sage-grouse reproductive success and that temperature and precipitation variables were found to have significant effects on chick survival. They concluded that, "An understanding of large-scale population drivers is essential for effective wildlife conservation planning and provides a baseline for developing meaningful hypotheses about specific local factors affecting populations at smaller spatial and temporal scales."

Coates et al. (2016 and 2017) demonstrated the importance of modeling climatically driven population cycles of sage grouse in Nevada and eastern California to understand "the difference between when populations are responding naturally to weather related patterns, compared to experiencing more localized- and habitat-based declines."

**3D seismic surveys** The rapid evolution of 3D seismic survey technology and its widespread adoption in the mid-1990s was arguably the most significant change to how oil and gas exploration and development occurred in sage grouse habitat (Gray et al. 2002; Chopra and Marfurt 2005). While this technology resulted in the discovery and development of new oil and gas fields, it also led to far more efficient and concentrated development of those resources than was previously possible. Consequently, the previous practice of grading access roads and drilling numerous exploratory "wildcat wells" across the landscape became obsolete by the late 1990s. With concentrated development possible directly over the most concentrated resources, planned oil and gas development was possible along with large, planned conservation set-asides for sage grouse and other species. In the Pinedale Planning Area, this led to large no surface occupancy areas being set aside by the BLM for sage grouse and other species. To visualize one-hundred years of change in surface development in the Pinedale Planning Area, from the era of wildcat well exploration and development to 3D seismic exploration and development (post 1995)

The most environmentally-significant of these new technologies has been improvements to and widespread adoption of directional drilling (Arthur and Cornue 2010; BLM 2006a; Ramey, Brown, and Blackgoat 2011; Seto 2011; Applegate and Owens 2014). Directional drilling involves drilling multiple wells (up to 50 presently) that angle away from a centralized well pad and single rig to tap oil and gas deposits a mile or more away and thousands of feet below the surface ([https://www.rigzone.com/training/insight.asp?insight\\_id=295](https://www.rigzone.com/training/insight.asp?insight_id=295)). This is a far more efficient, economical, and less environmentally impactful method than drilling many vertical wells to tap the same resource, because operators can access subsurface resources over a broad area from a single pad. (Directional wells that start vertically and make a 90-degree turn to traverse laterally to access in horizontal strata are known as horizontal wells.) Formerly, many closely-spaced vertical wells on separate pads were required to tap the same resource, which resulted in extensive surface disturbance, such as that seen in aerial photographs of the Jonah Field in Wyoming in the early 2000s. The Jonah Field underwent extensive vertical drilling in the 1990s before the widespread adoption of directional drilling and more stringent regulations on well pad spacing. While many directional wells currently traverse laterally a distance of less than two miles, the most recent records for lateral distance is 6.1 miles in the USA and 6.8 miles in Qatar (<https://www.drillingcontractor.org/corva-helps-break-north-american-drilling-record-for-longest-lateral-with-32468-ft-well-53647>; <https://www.guinnessworldrecords.com/world-records/longest-drilled-oil-well/>). These records illustrate that under ideal conditions a single well pad has the potential to access oil and gas resources in a subsurface area of over 19 square miles (12,265 acres) with minimal surface disturbance. Data from the Pinedale Planning Area shows that the transition from predominantly vertical wells to directional wells occurred around 2004 (Figure 1). This

represented a major shift in drilling efficiency and subsequently less surface disturbance. Directional wells now account for virtually all of the wells drilled in the Pinedale Planning Area and those planned for the Normally Pressurized Lance Field. More recently, advances in computational geoscience coupled with down-hole, near-the-drill-bit gamma ray, resistivity, and navigational sensors, allow real-time, high resolution 3D visualization of subsurface features in rocks surrounding the bore as drilling proceeds. This technology, coupled with the advent of rotary steerable system drill bits (first introduced on the Pinedale Anticline in 2008) dramatically decreases drilling time (Okafor et al. 2009). This combination of technologies, along with more recent advances in dynamic point-the-bit rotary steerable systems and analytical software has ushered in a new era of "geosteering" which has further increased the efficiency of tapping subsurface resources (Zhang et al. 2019). In simple terms, higher drilling efficiency translates into less surface disturbance and activity above ground, both of which can affect sage grouse. Directional drilling of multiple wells from the same well pad has also led to a new type of operational efficiency, one that was not possible during the single-well-per-pad-era: the co-location of supporting infrastructure for completion and production activities being simultaneously carried out on different wells drilled from the same well pad. This translates into reduced surface disturbance, equipment moving on and off site, and manpower required. For example, drilling rig moves that used to take 150 or more truck trips to move between pads, are now accomplished by skidding the rig a few feet to a nearby location on the same pad (Kreckel, 2011). See attachment for Figure 1. Figure 1. Annual number of vertical and directional wells drilled by the oil and gas industry in the Pinedale Planning Area from 1973 to 2012. The annual number of traditional vertical bore wells is indicated in red, and directional wells (including horizontal wells) are indicated in blue. The transition from predominantly vertical wells to directional wells took place in 2004. As of 2010, virtually all new wells drilled in the Pinedale Planning Area are directional wells.

Advances in technology allow shorter drilling and completion times, reducing potential disturbance to sage grouse. More efficient technology has also resulted in shorter drilling and well completion times. While the averages we report show marked improvement (from spudding to completion), it should be noted that these completion times also include periods of inactivity at a well site due to interruptions from logistical and seasonal constraints. Therefore, actual drill and completion times (not including inactive periods), may provide a more accurate portrayal of the duration of potentially disturbing activities to sage grouse. For example, companies reported that drilling a well on the Pinedale Anticline (with an average depth of 13,000 feet) took an average of 65 days in 2002 and this decreased to 35 days by 2006 (OGJ 2007). By 2011 this had improved further, to an average of 14 days of drilling to depth, and in 2013, QEP Resources reported that they had achieved a well to depth time of 9.3 days, a new record (QEP 2013). Similar improvements in drilling and completion efficiency have been reported elsewhere (DTC Energy Group 2013). Overall, uninterrupted completion times have dropped from six months to as few as 2 to 3 days in 2013 (AECOM 2013). Currently (as of January 2020), the average well depth on the Pinedale Anticline is 13,700 feet and drilling from spud to total depth takes an average of 8 days (range 6 to 10 days). Completions take approximately 3 days for two wells which are done in pairs for greater efficiency (data from Ultra Resources, Inc.). Collectively, these data illustrate that much has changed in drilling and completion technology over the 18 years from 2002 to 2020, resulting in reduced industrial activity and subsequent potential disturbance to sage grouse.

Beginning in the early 2000s closed-loop drilling fluid systems began to replace open reserve pits adjacent to wells being drilled. Closed-loop drilling fluid systems are a best management practice that has emerged as a more environmentally responsible and economically viable alternative to open reserve pits and evaporation ponds that require frequent truck trips, can trap sage grouse and other birds, and

represent a potential source of groundwater pollution (US Environmental Protection Agency 2019). Closed-loop systems separate drilling fluid from drill cuttings and other solids, which are dewatered for solid waste disposal in landfills. Water is then recycled back into the drilling process, minimizing fresh water use and making solid waste easier to dispose of (Colorado School of Mines. 2009; Pei et al. 2011). While an increasing number of companies have adopted closed loop drilling systems and on-site water purification systems to recycle produced water (Colorado Department of Natural Resources 2019, as cited in U.S. Environmental Protection Agency 2019), some have gone further and implemented a comprehensive, field-level liquid gathering systems (LGS) and water purification facilities. The most notable of these liquid gathering and water purification facilities went online on the Pinedale Anticline in 2012 and was designed to eliminate 165,000 truck trips per year (BLM 2005). A study conducted over two winters reported that the LGS system reduced overall human activity at LGS-equipped well pads, as compared to conventional well pads, by at least a factor of two and thereby reduced avoidance by sage grouse (Holloran et al. 2015). That study concluded that "implementing efforts to decrease anthropogenic activity levels associated with infrastructure of natural gas fields during both drilling and production phases of development (i.e. using LGS) may also help reduce effects of the infrastructure on wintering sage-grouse." A similar LGS and water purification system is also planned for the Normally Pressurized Lance Field for the same reasons

Other advancements in operational efficiency, with secondary benefits to sage grouse, have also been implemented in the Pinedale Planning Area, both as voluntary and regulatory efforts. The most significant of these to sage grouse have included: - Installation of remote telemetry systems to monitor wells and condensate tanks (initiated in 2008 and completed in 2012; BLM 2008a,b). - Electrification of the Pinedale Anticline (BLM 2012), allowing equipment to be powered with electricity rather than internal combustion generators and motors. While this change was originally intended to reduce high levels of ozone accumulation in the Pinedale Planning Area, it has the secondary benefit of reducing engine noise and truck traffic (needed to refuel and maintain internal combustion engines). - Required use of EPA compliant Tier II diesel engines on drill rigs, with phase out into more efficient Tier III and IV designs, all of which reduce noise (and pollutants) compared to non-compliant engines in use prior to 2006. Collectively, these improvements in efficiency translate into reduced drilling and completion times, reduced noise and truck traffic, and therefore, reduced disturbance to sage grouse and other species. Virtually all of the innovations listed above came after the primary and most influential studies were conducted at Pinedale (i.e. after 2006). Admittedly, the development of more efficient oil and gas development and production technology is often driven by economic considerations, however the benefits to the environment are obvious: reduced drilling and completion time which translates into less noise, less traffic, and less overall disturbance to wildlife

The biggest limitation of a statistical approach is the uncertainty in the effect of an individual project. At more local scales, this uncertainty can be substantially reduced by including data from other similar projects in the analyses while allowing for inter-project variation in the response (LaMontagne et al. 2002) through a random effect (Kéry 2010). Large-scale projects such as land-management plans may have to be broken into a series of smaller activities in order to estimate the effect with sufficient certainty for it to be useful in decision-making. The models should strive to analyse all available lek count data including historical counts using stage-based population dynamic models (Kery and Schaub 2011; McCaffery and Lukacs 2016). The advantages of stage-based population dynamic models are that multiple sources of information for different life-stages and sexes including prior information from previous analysis can be readily incorporated while lags are readily accounted for thus providing tighter linkages

between population drivers and lek counts. However, computational memory and/or run-time requirements may necessitate the fitting of simpler models to reduced datasets if they cannot be overcome through the use of supercomputers

Mining Author: Petersen et al. Year: 2016 Title: Response of greater sage-grouse to surface coal mining and habitat conservation in association with the mine: *Human-Wildlife Interactions*, v. 10, no. 2, p. 205-216. Implications: Modified from USGS Annotated Bibliographies (2018, 2019) or from each paper: The authors conclude that surface coal mining and associated mitigation did not cause a decline in the existing GRSG population at the Alton/Sink Valley area of southwest Utah. Habitat fidelity and acclimation to a long history of anthropogenic activities may have affected GRSG behavior in this region. GRSG at this location did not avoid mining activities as other GRSG populations have been observed to do elsewhere in the range. Supersedes NTT: Yes Supersedes COT: Yes Issue: Coal mining; mitigation Significance: Lack of avoidance is notable, the question is why?

Predation Author: Harju et al. Year: 2018 Title: Common raven movement and space use: influence of anthropogenic subsidies within greater sage-grouse nesting habitat: *Ecosphere*, v. 9, no. 7, article e02348, 16 p, <https://doi.org/10.1002/ecs2.2348>. Implications: Modified from USGS Annotated Bibliographies (2018, 2019) or from each paper: Lethal control of ravens at primary subsidies likely does not impact breeding ravens, who tend to utilize these sources less and pose a greater threat to GRSG through nest depredation. Inducing nest failure may cause ravens to change their space use and movement patterns to a wider-ranging nonbreeding pattern, which would likely, and leave them more vulnerable to lethal control at primary subsidies. Supersedes NTT: Yes Supersedes COT: Yes Issue: Predation; mitigation (Technique refinement) Significance: Ravens Comments: Potential method to disrupt raven behavior making them more susceptible to lethal control.

Author: Creutzburg et al. Year: 2015 Title: Climate change and land management impact rangeland condition and sage-grouse habitat in southeastern Oregon: *AIMS Environmental Science*, v. 2, no. 2, p. 203-236. Implications: This paper, "evaluated varying scenarios of future climate and management and their implications for rangeland condition and habitat quality, ... simulations indicate that climate change may have both positive and negative implications for maintaining sage-grouse habitat." Supersedes NTT: Yes Supersedes COT: Yes Issue: Climate (long range predictions) Significance: Potential changes to habitat are positive and negative for GRSG Comments: "Linking multiple models creates greater complexity and creates new opportunities for error." In this case, four models with unknown error.

Climate (long range predictions) Author: Homer et al. Year: 2015 Title: Forecasting sagebrush ecosystem components and greater sage-grouse habitat for 2050-Learning from past climate patterns and Landsat imagery to predict the future. *Ecological Indicators*, v. 55, p. 131-145. Implications: Predicted losses of GRSG habitat to 2050 based on two extreme scenario, downscaled IPCC general circulation models. Issue: Climate (long range predictions) Significance: Questionable long-range predictions Comments: Caveats: Old error-prone data mixed with new data (1984-2011); Predictions rely on two highest anthropogenic radiative forcing models

Climate (long range predictions) Author: Balzotti et al. Year: 2016 Title: Beyond the single species climate envelope-A multifaceted approach to mapping climate change vulnerability: *Ecosphere*, v. 7, no. 9, article e01444, 23 p., <https://doi.org/10.1002/ecs2.1444>. Implications: Long-range predictions of habitat changes in Nevada and Utah (to 2070) were based on machine-learning software utilizing regional predictions derived from previously published, downscaled global general circulation models and data from 1961-90



"normal period." Issue: Climate (long range predictions) Significance: Long-term predictions on habitat or population trends Comments: Caveat: Long range predictions to 2070. Predictions untestable.

Climate (long range predictions) Author: Boyte et al. Year: 2016 Title: Boyte, S.P., Wylie, B.K., and Major, D.J., 2016, Cheatgrass percent cover change-Comparing recent estimates to climate change-driven predictions in the northern Great Basin: *Rangeland Ecology and Management*, v. 69, no. 4, p. 265-279. Implications: Identified areas where cheatgrass was likely to change and projected the potential future magnitude of change for years 2050 and 2070. Climate projections were based on scenarios from the Intergovernmental Panel on Climate Change (IPCC) for 2050 and 2070. Issue: Climate (long range predictions) Significance: Evaluated potential cheatgrass spread in future Comments: Caveat: Climate projections based on scenarios derived from IPCC general circulation models

Climate (long range predictions) Author: Palmquist et al. Year: 2016 Title: Mid-latitude shrub steppe plant communities-Climate change consequences for soil water resources: *Ecology*, v. 97, no. 9, p. 2342-2354 Implications: Long-range predictions (to 2100) based on global circulation models (GCM), representative concentration pathways (RCPs), and process-based soil water model. Longer, drier summers will likely have a negative effect on sagebrush regeneration and seedling survival and may result in changes to plant functional group composition within current GRSG habitats. Outcome depends on GCM chosen. Issue: Climate(long range predictions) Significance: Questionable very long-range predictions Comments: Caveats: Predictions based on down-scaled general circulation models and outputs of multiple linked models.

Climate (long range predictions) Author: Palmquist et al. Year: 2016 Title: Spatial and ecological variation in dryland ecohydrological responses to climate change- Implications for management: *Ecosphere*, v. 7, no. 11, article e01590, 20 p., Implications: Long-range predictions (2050) based on GCM and RCPs. Predict drier summer conditions in higher elevation areas could lead to increased suitability for big sagebrush, whereas mid to lower elevation sites could become less suitable for big sagebrush and consequently GRSG. This information could help prioritize areas for conservation of shrub steppe ecosystems into the future (but they do not say how). Issue: Climate (long range predictions) Significance: Questionable long-range predictions based on most extreme warming scenario (i.e. 5°C by 2100). Comments: Caveat: Predictions based on most extreme scenario RCP8.5 (i.e. unlikely high-risk future) and outputs of multiple linked models.

Regional climatic variation and weather Author: Caudill et al. Year: 2016 Title: Factors affecting seasonal movements of juvenile greater sage-grouse-A reconceptualized nest survival model: *The Condor*, v. 118, no. 1, p. 139-147. Implications: Results suggested that precipitation, rather than snow accumulation or depth, was the primary driver of juvenile migration. Movement from late fall habitats to winter habitats was variable, indicating that the effects of harvest may vary with harvest timing and its relation to seasonal movements. Changes in climate may negatively affect GRSG if the onset of winter conditions is delayed, affecting the movement of juveniles to winter habitat. The model application presented here may be used to develop a better understanding of relations between environmental factors and GRSG behavior. Supersedes NTT: Yes Supersedes COT: Yes Issue: Seasonal climate and juvenile GRSG migration; Technique refinement: hunting season Significance: Measurable effects of weather on seasonal movements and habitat use; prioritization of management

Regional climatic variation and weather Author: Gibson et al. Year: 2017 Title: Weather, habitat composition, and female behavior interact to modify offspring survival in greater sagegrouse: *Ecological*

Applications, v. 27, no. 1, p. 168-181. Implications: The authors evaluated relations between (1) weather and brood survival, (2) drought and breeding site selection, and (3) shifts in breeding site selection and brood survival of GRSG. Chick survival was negatively related to drought severity. Nest sites at low elevations may contribute little to reproduction in drought years, and extended droughts may be detrimental to GRSG populations that cannot access high elevation sites. Supersedes NTT: Yes Issue: Climate (local/seasonal and regional drought) Significance: Local/seasonal effects of weather and drought on vital rates, nesting behavior, and population Comments: GRSG exhibit behavioral response to drought although prolonged drought can be deleterious.

Regional climatic variation and weather Author: Coates et al Year: 2018 Title: The relative importance of intrinsic and extrinsic drivers to population growth vary among local populations of greater sage-grouse: an integrated population modeling approach: AUK, v. 135, no. 2, p. 240-261. Implications: Using integrated population modeling allowed the authors to disentangle the effects of precipitation variability on GRSG populations at the DPS level from those at the sub-population level. This information will help resource managers understand how growth rates in the Bi-State DPS can appear stable, while at the same time, certain sub-populations may decline due to extrinsic factors such as drought, unless management actions are taken. Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement; population trends Significance: Measurable local, seasonal effects of precipitation variability on population dynamics.

Regional climatic variation and weather Author: Mathews et al. Year: 2018 Title: An integrated population model for greater sage-grouse (*Centrocercus urophasianus*) in the bi-state distinct population segment, California and Nevada, 2003-17: US Geological Survey Open-File Report 2018-1177, 89 p., <https://doi.org/10.3133/ofr20181177>. Implications: Results suggested that GRSG use increased following pinyon-juniper conifer removal treatments. Modeling showed annual variations in subpopulations, with an overall 2 percent decline in the Bi-State population from 2003 to 2017. The overall decline in the Bi-State population was likely a result of drought events; subpopulations that are stable or increasing are insulated from drought due to water availability. Issue: Climate (regional variation and drought); Habitat restoration; Translocation Significance: Population trends in response to drought, Positive response to habitat restoration) Comments: Increased GRSG use after tree removal, drought causes population declines. Mixed results for translocated broods.

Regional climatic variation and weather Author: Ramey et al Year: 2018 Title: Local and population-level responses of greater sage-grouse to oil and gas development and climatic variation in Wyoming: PEERJ, v. 2018, no. 6, p. e5417, <https://doi.org/10.7717/peerj.5417>. Implications: Hierarchical models were used to estimate the effects of the areal disturbance due to well pads as well as climatic variation on individual lek counts and Greater sage-grouse populations (management units) over 32 years. Modeling revealed that oil and gas had a strong negative effect on local-scale lek attendance within a 3.2 km radius around a well. Oil and gas was a weak predictor of population-scale changes, but appeared consistent with local-scale responses. The PDO was found to be a strong predictor of long-term population density fluctuations at local and population scales. Supersedes NTT: Yes Supersedes COT: Yes Issue: Climate (regional climatic variation); population fluctuations; oil & gas Significance: PDO was the major driver of population trends rather than oil and gas development Comments: Wildlife agencies need to account for the effects of regional climatic variation when managing sage-grouse populations.

Translocation and Captive Breeding for GRSB Restoration Author: Thompson et al. Year: 2015 Title: Captive rearing sagegrouse for augmentation of surrogate wild broods-Evidence for success: Journal of Wildlife Management, v. 79, no. 6, p. 998-1013. Implications: Egg collection and hatching, rearing, and adoption of captive-raised chicks into wild broods is feasible. Supersedes NTT: Yes Supersedes COT: Yes Issue: Captive rearing GRSB; itigation Significance: Another paper showing population augmentation is feasible

Translocation and Captive Breeding for GRSB Restoration Author: Gruber-Hadden et al. Year: 2016 Title: Population vital rates of resident and translocated female greater sage-grouse: Journal of Wildlife Management, v. 80, no. 4, p. 753-760. Implications: Retention of translocated GRSB within the targeted release site was 82 percent. There was not statistical support for a difference between resident and translocated birds for female, nest, and chick survival. Nest initiation rates and clutch sizes were generally higher for residents compared to translocated GRSB. Nest success was positively related to grass height. Successful translocations will depend on resolving issues that have imperiled the resident population. Supersedes NTT: Yes Supersedes COT: Yes Issue: Mitigation Significance: Translocation Comments: Small sample size, more data needed

Translocation and Captive Breeding for GRSB Restoration Author: Apa, et al. Year: 2017 Title: Apa, A.D., Thompson, T.R., and Reese, K.P., 2017, Juvenile greater sage-grouse survival, movements, and recruitment in Colorado: Journal of Wildlife Management, v. 81, no. 4, p. 652-668. Implications: Experimentally introduced domestically-hatched chicks into existing wild broods. Was deemed successful because survival rates of these birds were comparable to wild-hatched birds. Supersedes NTT: Yes Supersedes COT: Yes Issue: mitigation; translocation Significance: Translocation successful; reintroduction and augmentation are viable techniques Comments: Successful experimental reintroduction technique.

Translocation and Captive Breeding for GRSB Restoration Author: Duvuvuei et al. Year: 2017 Title: Contribution of translocated greater sage-grouse to population vital rates: Journal of Wildlife Management, v. 81, no. 6, p. 1033-1041. Implications: Translocating adult females may maximize translocation success overall, as adults are more likely than juveniles to raise a brood in the first year. Authors recommend continuing monitoring for multiple years following translocations. They suggest that factors causing declines in the focal GRSB population be mitigated prior to receiving translocated females. Supersedes NTT: Yes Supersedes COT: Yes Issue: Mitigation Significance: Translocation/population augmentation Comments: One of several recent studies that have shown translocation is a useful tool for GRSB conservation.

Translocation and Captive Breeding for GRSB Restoration Author: Ebenhoch et al. Year: 2019 Title: Effects of post-release movements on survival of translocated sage-grouse: The Journal of Wildlife Management, v. 83, no. 6, p. 1314-1326. Implications: Supersedes NTT: Newly translocated GRSB had smaller home ranges and traveled longer daily distances than either resident or previously translocated birds, but distances moved between seasonal centers did not differ among the three groups. Annual survival was not significantly lower in newly translocated birds; males and birds that moved greater daily distances had greater mortality risk. Newly translocated birds initiated nests less often than other groups, but nest initiation date and nest survival did not vary with residency status. Nest success was higher when nests were initiated later in the nesting season. Resident GRSB nested farther from active leks than translocated birds. Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique

improvement; Mitigation Significance: Translocation of GRSG is a potential tool for augmenting declining populations or reestablishing ones that have been extirpated. Comments: It has long been argued that translocation is unsuccessful despite data to the contrary (Strawberry Hill). This information also suggests that survival of translocated birds does not differ from resident birds

Translocation and Captive Breeding for GRSG Restoration Author: Heinrichs et al. Year: 2019 Title: Optimizing the use of endangered species in multi-population collection, captive breeding and release programs: *Global Ecology and Conservation*, v. 17, article e00558, 12 p, <https://doi.org/10.1016/j.gecco.2019.e00558>. Implications: Modeled tradeoffs of releasing captive bred birds to augment populations. Reported, "Releases into small and rapidly declining populations provided the greatest near-term reductions in extinction risk, but improvements were short-term. Yet releases into larger and more stable populations resulted in longer lasting conservation benefits than in more vulnerable populations but required greater initial release effort. Systematic modeling approaches that evaluate a spectrum of trade-offs and quantify conservation risks and benefits can help direct the expectations and effort invested in captive breeding and release programs." Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement; captive breeding and release Significance: Captive breeding and release is a potentially effective tool to bolster wild populations.

Improved Habitat Mapping and Assessment Author: Gibson et al. Year: 2015 Title: Observer effects strongly influence estimates of daily nest survival probability but do not substantially increase rates of nest failure in greater sage-grouse: *The Auk*, v. 132, no. 2, p. 397-407 Implications: Observer-induced nest abandonment can decrease estimates of daily nest survival. The authors recommend assessing the potential costs and benefits of nest surveys on sensitive populations and incorporating bias corrections into estimates of nest survival. Supersedes NTT: Yes Issue: Technique refinement; nest survival studies Significance: Researchers can have deleterious effect on parameter they are studying. Comments: Raises concern that some previous studies may have biased results.

Improved Habitat Mapping and Assessment Author: McCaffery et al. Year: 2016 Title: Improved analysis of lek count data using N-mixture models: *Journal of Wildlife Management*, v. 80, no. 6, p. 1011-1021 Implications: The authors found that N-mixture models produced more accurate population trend estimates than naive lek count data, largely because they corrected for substantial year-to-year variability in detection probability. Using naive lek count data may result in inaccurate and misleading estimates of GRSG population size and trend when compared to results obtained by using an N-mixture modeling approach that can better account for variable detection probability and missing data. The authors provide suggestions for lek monitoring designs that can be analyzed using N-mixture models Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement; population trend estimates Significance: Highly significant paper on estimating population trend estimates than traditional methods from lek count data. Comments: Additional review suggested

Improved Habitat Mapping and Assessment Author: McCaffery and Lukacs Year: 2016 Title: A generalized integrated population model to estimate greater sage-grouse population dynamics: *Ecosphere*, v. 7, no. 11, article e01585, 14 p., Implications: Integrated population models improved estimates of annual GRSG population dynamics by smoothing variability attributable to sampling noise. The authors conclude that their integrated population model framework could provide robust assessments of population size and trend, information on mechanisms underlying observed trends, and a unified tool for use by GRSG biologists studying various populations throughout the range of the

species. The authors suggest that future field sampling efforts should seek improved information on sex and age ratios, female population sizes, sex-specific survival rates by life stage, and the proportion of leks surveyed annually in a given area. Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement: Improved analysis of lek count data using N-mixture models Significance: Highly significant paper for future estimating of population trends and abundance Comments: Additional review suggested

Improved Habitat Mapping and Assessment Author: Caudill et al. Year: 2017 Title: Individual heterogeneity and effects of harvest on greater sage-grouse populations: *Journal of Wildlife Management*, v. 81, no. 5, p. 754-765. Implications: "Using the revised formulae, the authors demonstrated that effects of selective harvest on grouse tend to be depensatory [adult mortality contributes to reduced productivity and/or survivorship in the population] when robust individuals are more susceptible to harvest, and some level of compensation is likely when frail individuals are more susceptible to harvest." Issue: Technique refinement; Hunting Significance: Mitigating potential population-level effect of hunting Comments: Example of effective application of determining cause and effect mechanisms for effective mitigation.

Improved Habitat Mapping and Assessment Author: Forby et al. Year: 2017 Title: Emerging technology to measure habitat quality and behavior of grouse-Examples from studies of greater sage-grouse: *Wildlife Biology*, article wlb.00238, 10 p., <https://doi.org/10.2981/wlb.00238> Implications: Significant changes in our understanding of GRSG ecology may arise from new technologies, but they will require scientific testing, calibration, and communication between managers and scientists to overcome challenges and target data collection and use Supersedes NTT: Yes Issue: Potential technique refinements Significance: Showcasing of various potential improvements in methodology via UAVs, spectral imaging, robotic animals and biotelemetry systems. Comments: Caveat: Except for spectral imaging of vegetation, seems like high tech methods in search of a question.

Improved Habitat Mapping and Assessment Author: Fregman et al. Year: 2017 Title: Necklace-style radio-transmitters are associated with changes in display vocalizations of male greater sage-grouse: *Wildlife Biology*, article wlb.00236, 8 p., <https://doi.org/10.2981/wlb.00236>. Implications: Vocalizations made by males with necklace-style radio transmitters fell outside the normal range of vocalizations produced by males throughout the range of GRSG, suggesting that radio collars may impair their ability to produce normal vocalizations. The use of necklace-style collars that sit on the necks of GRSG are not recommended for use in behavioral studies of GRSG. Alternative attachment methods should be developed and tested. Supersedes NTT: Yes Issue: Technique refinement Significance: Necklace-style transmitters alter behavior. Comments: Raises concern that previous studies that used this and other outdated technology may have biased results.

Improved Habitat Mapping and Assessment Author: Hagen et al. Year: 2018 Title: Estimating sex-ratio, survival, and harvest susceptibility in greater sage-grouse: making the most of hunter harvests: *Wildlife Biology*, article wlb.00362, 7 p., <https://doi.org/10.2981/wlb.00362>. Implications: The authors suggest that demographics of harvested populations can be modeled for GRSG or other game birds using a mark-recovery approach of harvested individuals. Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement; population estimation Significance: Hunter harvested sage grouse are an important source of data on survivorship. Comments: Caveat: requires hunting

Improved Habitat Mapping and Assessment Author: Monroe et al. Year: 2019 Title: The importance of simulation assumptions when evaluating detectability in population models: *Ecosphere*, v. 10, no. 7, p. 1-

17., <https://doi.org/10.1002/ecs2.2791>. Implications: Using simulation scenarios with systematic trends in detectability may be more informative for evaluating population models than scenarios that assume detectability is constant or random. With finite monitoring resources available, using auxiliary data on lek attendance to model GRSG populations with N-mixture models may allow more leks to be studied less intensively. However, additional investigation is needed to evaluate the extent to which auxiliary data are appropriate for different GRSG populations across their range. Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement; estimating abundance and population trend Significance: Simulations used to evaluate proposed analytical approach which performed favorably

Improved Habitat Mapping and Assessment Author: Severson et al. Year: 2019 Title: Global positioning system tracking devices can decrease Greater Sage-grouse survival: *The Condor*, v. 121, p. 1-15. Implications: The authors reported, "We found lower survival for GPS marked compared to VHF-marked sage-grouse across most sex, age, and seasonal comparisons. Estimates of annual survival for GPS-marked sage-grouse were 0.55-0.86 times that of VHF-marked birds with considerable variation among sex and age classes. Differences in survival could be attributed to features associated with GPS devices, including greater weight, position of attachment (e.g., rump-mount harness), and a semi-reflective solar panel." Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement; GPS tagging Significance: GPS tagged individual had decreased survival compared to older VHF technology. Studies using GPS tags assume no cost to survival or fitness, an assumption obviously violated. Comments: Consistent with other studies. Previous studies using GPS may have biased results.

Improved Prioritization of GRSG Management Author: Dahlgren et al. Year: 2015 Title: Greater sage-grouse and range management-Insights from a 25-year case study in Utah and Wyoming: *Rangeland Ecology and Management*, v. 68, no. 5, p. 375-382. Implications: This retrospective analysis used 25 years of data across three large landscapes in northern Utah and southwestern Wyoming to assess sage-grouse population change and corresponding land management differences and sagebrush treatments (prescribed fire, chemical treatment, and grazing) in a case study design to test hypotheses and make recommendations based on research. Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement; habitat and population management Significance: Long-term research used to inform effective habitat and population management.

Improved Prioritization of GRSG Management Author: Carlisle et al. Year: 2018 Title: Identifying holes in the greater sage-grouse conservation umbrella: *Journal of Wildlife Management*, v. 82, no. 5, p. 948-957. Implications: The authors conclude that species with small distributions or those with habitat requirements that are only partly similar to those of GRSG will receive relatively fewer conservation benefits from GRSG as an umbrella species. These species may need separate protections established for their conservation. The authors further suggest that applying the umbrella species concept to GRSG and sagebrush habitats requires attention to details regarding the umbrella species, habitat reserves created to benefit the species, and the degree of habitat similarity shared with co-occurring species. Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement; GRSG as a conservation "umbrella species" Significance: Prioritization of management actions; unintended consequences Comments: The NTT, COT, and LUPs completely fail to take into account other species and can have negative impacts on other species at a local level. The one-size fits all, single species management approach has proven adverse effects to other species.

Improved Prioritization of GRSG Management Author: Hanser et al. Year: 2018 Title: Greater sage-grouse science (2015-17)-synthesis and potential management implications: U.S. Geological Survey, Open-File Report 2018-1017, 46 p., <https://doi.org/10.3133/ofr20181017>. Implications: This is a USGS synthesis of papers from the USGS annotated bibliography on GRSG literature by Carter et al. (2018) covering topics: The six primary topics were: Multiscale habitat suitability and mapping tools; Discrete anthropogenic activities; Diffuse activities; Fire and invasive species; Restoration effectiveness; Population estimation and genetics. Supersedes NTT: Yes Supersedes COT: Yes Issue: Literature review 2015-2018 Significance: Likely influential in USFWS 2020 status review. Comments: USGS literature review. Potentially influential, additional review recommended.

Habitat Improvement Author: Gustafson et al. Year: 2018 Title: Using object-based image analysis to conduct high-resolution conifer extraction at regional spatial scales: International Journal of Applied Earth Observation and Geoinformation, v. 73, p. 148 - 155. Implications: The maps produced can help to inform land managers on where to target pinyon-juniper treatment in order to aid sagebrush restoration and GRSG conservation. Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement Significance: Prioritization of management actions; Unintended consequences Comments: The NTT, COT, and LUPs completely fail to take into account other species and can have negative impacts on other species at a local level. The one-size fits all, single species management approach has proven adverse effects to other species.

Habitat Improvement Author: Gustafson et al. Year: 2018 Title: Using object-based image analysis to conduct high-resolution conifer extraction at regional spatial scales: International Journal of Applied Earth Observation and Geoinformation, v. 73, p. 148 - 155. Implications: The maps produced can help to inform land managers on where to target pinyon-juniper treatment in order to aid sagebrush restoration and GRSG conservation. Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement; habitat mapping; Pinion-juniper treatment Significance: Habitat mapping; habitat restoration Comments: Potential technique for offset mitigation.

Habitat Improvement Author: Ricca et al. Year: 2018 Title: A conservation planning tool for greater sage-grouse using indices of species distribution, resilience, and resistance: Ecological Applications, v. 28, no. 4, p. 878-896. Implications: The CPT could help resource managers evaluate potential costs and benefits of treatments in particular locations in order to facilitate restoration prioritization decisions across landscapes used by GRSG. Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement; habitat restoration Significance: Prioritization of management; new planning tool Comments: An improved planning tool. Also undermines the argument that habitats cannot be restored by recognizing the BLM prioritization process for restoring lands needs improvement. This tool can help with that.

Habitat Improvement Author: Davee et al. Year: 2019 Title: Using beaver dam analogues for fish and wildlife recovery on public and private rangelands in Eastern Oregon: Research Paper PNW-RP-617. Northwest Climate Hub, U.S Department of Agriculture, Forest Service, Pacific Northwest Research Station, p. 32. Implications: Beaver dam analogues can improve habitat for fish and wildlife, including GRSG, but implementing this tool may require navigating new or yet-to-be established regulatory pathways and obtaining buy-in from private landowners and ranchers is an important consideration for increasing implementation of this tool. Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement; Mitigation; Habitat restoration Significance: Innovative method for habitat restoration; habitat

expansion Comments: Expands mesic areas making them more resilient (potentially useful for drought/climate mitigation and/or conservation offset).

Mitigation-Restoration of Habitat - Pinyon-Juniper removal Author: Farzan et al. Year: 2015 Title: Western juniper management-Assessing strategies for improving greater sage-grouse habitat and rangeland productivity: Environmental Management, v. 56, no. 3, p. 675-683. Implications: The study showed that juniper removal can benefit both GRSG and cattle forage production, but the benefits depend on site characteristics and how sites were selected. Sites chosen to maximize forage did not substantially benefit GRSG. Sites chosen for GRSG habitat did benefit forage production, but larger habitat treatments had decreasing returns on investment. The benefits achieved for either goal were altered by agency coordination, budgetary constraints, and wildfire. Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement; pinyon-juniper removal Significance: Management can be prioritized to benefit GRSG habitat and cattle forage Comments: Management actions can have a dual purpose.

Mitigation-Restoration of Habitat - Pinyon-Juniper removal Author: Coates et al. Year: 2017 Title: Pinyon and juniper encroachment into sagebrush ecosystems impacts distribution and survival of greater sage-grouse: Rangeland Ecology and Management, v. 70, no. 1, p. 25-38. Implications: From the authors: "Collectively, these results provide clear evidence that local sage-grouse distributions and demographic rates are influenced by pinyon-juniper, especially in habitats with higher primary productivity but relatively low and seemingly benign tree cover. Such areas may function as ecological traps that convey attractive resources but adversely affect population vital rates. To increase sage-grouse survival, our model predictions support reducing actual pinyon-juniper cover as low as 1.5%, which is lower than the published target of 4.0%." Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement; Improved standards for pinyon-juniper removal Significance: New threshold for pinyon-juniper removal provided greater benefits to GRSG

Mitigation-Restoration of Habitat - Pinyon-Juniper removal Author: Prochazka et al. Year: 2017 Title: Encounters with pinyon-juniper influence riskier movements in greater sage-grouse across the Great Basin: Rangeland Ecology and Management, v. 70, p. 39-49. Implications: The authors conclude that GRSG are negatively affected by pinyon-juniper encroachment because this habitat type stimulates faster, high-risk movements, such as flight, which likely attract visual predators. Further, the study quantifies age-specific GRSG mortality risk when individuals move through landscapes containing pinyon-juniper stands. Supersedes NTT: Yes Supersedes COT: Yes Issue: Pinyon-juniper; predation risk Significance: Pinyon-juniper; predation risk Comments: Cause and effect mechanism explaining predation risk

Mitigation-Restoration of Habitat - Pinyon-Juniper removal Author: Reinhardt et al. Year: 2017 Title: The authors conclude that the optimization framework and models used in this study illustrate an approach, increasingly available to land managers, which can augment or complement standard expert-based approaches to planning and prioritization. Such approaches could reduce planning and implementation time for landscape-scale conifer removal treatments. Topics: broad-scale habitat characteristics, conifer expansion, new geospatial data, habitat restoration or reclamation Implications: Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement; conifer removal Significance: Prioritization of management Comments: Improved methodology



Mitigation-Restoration of Habitat - Pinyon-Juniper removal Author: Davies and Bates Year: 2019 Title: Longer-term evaluation of sagebrush restoration after juniper control and herbaceous vegetation trade-offs: *Rangeland Ecology & Management*, v. 72, no. 2, p. 260-265. Implications: Following juniper control in dense stands that lack sagebrush, mountain big sagebrush re-establishment is likely to be accelerated by seeding, whereas herbaceous vegetation cover may be reduced. Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement; pinion-juniper removal and sagebrush restoration

Mitigation-Wildfire Author: Davis and Crawford Year: 2015 Title: Case study-Short-term response of greater sage- grouse habitats to wildfire in mountain big sagebrush communities: *Wildlife Society Bulletin*, v. 39, no. 1, p. 129-137. Implications: The authors sought to identify the short-term (<11 year) response of GRSG nesting and brood-rearing habitats to wildfire. In mountain big sagebrush communities where sagebrush is abundant, the understory is composed of adequate native perennial grasses and forbs, and invasive annual grasses are limited, prescribed burning may be a useful tool for improving GRSG nesting and brood-rearing habitat. The application of fire treatments in less mesic sagebrush communities with fewer forbs may not produce the desired results, which emphasizes that management decisions need to be made in light of existing conditions and documented GRSG seasonal habitat needs. Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement; prescribed fire Significance: Selective use of prescribed fire to improve GRSG habitat. Comments: Supersedes NTT because fire treatments may benefit higher elevation mountain big sagebrush communities i.e. not a one-size-fits-all strategy.

Mitigation-Wildfire Author: Coates et al. Year: 2016 Title: Wildfire, climate, and invasive grass interactions negatively impact an indicator species by reshaping sagebrush ecosystems: *Proceedings of the National Academy of Sciences of the United States of America*, v. 113, no. 45, p. 12745-12750. Implications: The authors describe, "Using three decades of sage-grouse population count, wildfire, and climate data within a modeling framework that allowed for variable postfire recovery of sagebrush, we provide quantitative evidence that links long-term declines of sage-grouse to chronic effects of wildfire. Projected declines may be slowed or halted by targeting fire suppression in remaining areas of intact sagebrush with high densities of breeding sage-grouse." Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement; targeted wildfire suppression Significance: Prioritization of fire suppression to minimize deleterious effects to GRSG Comments: Important preplanning strategy to reduce threat of wildfire.

Mitigation-Wildfire Author: Ellsworth et al. Year: 2016 Title: Ecosystem resilience is evident 17 years after fire in Wyoming big sagebrush ecosystems: *Ecosphere*, v. 7, no. 12, article e01618, 12 p., <https://doi.org/10.1002/ecs2.1618>. Implications: Results demonstrate post-fire resilience of the xeric Wyoming big sagebrush system, possibly because of its high quality and presence of unburned patches within the fire perimeter. The conditions are representative of xeric Wyoming big sagebrush communities prior to the invasion of cheatgrass, where there were islands of sagebrush left after fire which helps the system recover from fire and provide habitat for GRSG. Controlled burning of some xeric sagebrush systems that are in good condition and dominated by natives may have benefits for ecosystem heterogeneity and herbaceous cover. Authors conclude, "Our results illustrate that management of all habitat components, including natural disturbance and a mosaic of successional stages, is important for persistent resilience and that suppression of all fires in the sagebrush steppe may create long-term losses of heterogeneity in good condition Wyoming big sagebrush ecosystems." Supersedes

NTT: Yes Supersedes COT: Yes Issue: Wildfire; mitigation strategy Significance: Selective use of prescribed fire

Mitigation-Wildfire Author: Foster et al. Year: 2018 Title: Potential effects of GPS transmitters on greater sage-grouse survival in a post-fire landscape: *Wildlife Biology*, v. 2018, no. 1, p. 1-5. Implications: Survival rates measured in this post-fire study were much lower than observed in other studies in the Great Basin, though they did eventually increase to comparable levels (after the conclusion of this study). If the slightly lower survival rates of birds with GPS versus VHF devices observed in this study are confirmed (5% lower survival), they are of concern because of the increasing use of GPS units and the potential for effects of this magnitude to affect population growth rates. Findings from this study were limited by small sample sizes. Supersedes NTT: Yes Supersedes COT: Yes Issue: Post-fire study; GPS transmitters affect survival Significance: GPS transmitters reduce survival compared to VHF transmitters Comments: Authors appropriately recognize that the GPS may have biased the conclusions. As such, this study better informs future study designs.

Mitigation-Wildfire Author: Shinneman et al. Year: 2018 Title: A conservation paradox in the great basin-altering sagebrush landscapes with fuel breaks to reduce habitat loss from wildfire: *US Geological Survey*, v. XXX, no. XXX, p. XXX\*Open File Report. Implications: The authors conclude that more research is needed to document fuel break effectiveness, effects on plant communities, and effect on wildlife. However, they suggest that installing fuel breaks in an effort to protect intact sagebrush habitat may provide long-term benefits to sagebrush-associated species, even if these benefits come at a cost to some individual species at local scales. Supersedes NTT: Yes Supersedes COT: Yes Issue: Wildfire; fuel breaks Significance: Supports the reality that historical habitat was not a vast sagebrush sea, but rather an ecosystem made up of sagebrush islands. Comments: Suggest additional review due to significance as a mitigation measure.

Mitigation-Wildfire Author: Foster et al. Year: 2019 Title: Greater sage-grouse vital rates after wildfire: *Journal of Wildlife Management*, v. 83, no. 1, p. 121-134. Implications: GRSG continued to use areas within the wildlife perimeter, but had lower nest and adult survival rates compared to other reported values for GRSG in the Great Basin. Apparent decreased nest site fidelity within the fire perimeter may relate to increased habitat fragmentation. Increased nest survival in the second year may relate to increased vegetation in the burned area. Findings suggest that fire suppression activities to maintain intact habitat patches may be a critical tool for managers of GRSG populations and habitat in landscapes prone to fire. Supersedes NTT: Yes Supersedes COT: Yes Issue: Wildfire; mitigation strategy Significance: Improved Wildfire firefighting strategy to benefit GRSG.

Mitigation-Wildfire Author: Shinneman et al. Year: 2019 Title: The ecological uncertainty of wildfire fuel breaks: examples from the sagebrush steppe: *Frontiers in Ecology and Environment*, v. 17, no. 5, p. 279-289. Implications: To produce a robust cost-benefit analysis regarding fuel break effectiveness and ecological impacts, more research is needed. The authors suggest several specific research questions that could provide useful information to policy and decision-makers "to disentangle their ecological costs and benefits." Supersedes NTT: Yes Supersedes COT: Yes Issue: wildfire; fuel breaks Significance: Ecological cost benefit analysis of fuel breaks Comments: Ecological cost benefit analysis of fuel breaks

Mitigation-Wildfire Author: Stenvoorden et al. Year: 2019 Title: The potential importance of unburned islands as refugia for the persistence of wildlife species in fire-prone ecosystems: *Ecology and Evolution*, DOI: 10.1002/ece3.5432. Implications: Population dynamics of leks located within fire perimeters are

negatively impacted. Unburned islands play an important role as refugia, and maintaining unburned vegetation may be vital for the success of GRSG populations after a wildfire event. The recovery of natural vegetation postfire may also benefit GRSG populations. Supersedes NTT: Yes Supersedes COT: Yes Issue: Wildfire; fire suppression Significance: Prioritization of fire suppression to maintain unburned refugia and enhance post-wildfire restoration.

Other Mitigation Author: Blomberg et al. Year: 2015 Title: Blomberg, E.J., 2015, The influence of harvest timing on greater sage-grouse survival-A cautionary perspective: Journal of Wildlife Management, v. 79, no. 5, p. 695-703. Implications: The author concluded that timing of mortality, coupled with potential effects indicated by compensatory and additive mortality models, suggests that moving harvest to later in the year will not benefit GRSG populations and may have unintended negative consequences. Issue: Technique refinement: hunting season Significance: Reducing population effects but shifting hunting season Comments: Applies only to where GRSG are hunted

Other Mitigation Author: Wing and Messmer Year: 2016 Title: Impact of sagebrush nutrients and monoterpenes on greater sage-grouse vital rates: Human-Wildlife Interactions, v. 10, no. 2, p. 157-168. Implications: Study results confirmed the importance of black sagebrush as pre-nesting season forage and suggested that any forage selection related to monoterpenes may reflect some aspect of an individual monoterpene rather than the total concentration of all monoterpenes. Study results should be interpreted cautiously because of the small sample size, single year, and single study site. Supersedes NTT: Yes Supersedes COT: Yes Issue: black sagebrush; GRSG forage

Other Mitigation Author: Blomberg et al. Year: 2015 Title: Blomberg, E.J., 2015, The influence of harvest timing on greater sage-grouse survival-A cautionary perspective: Journal of Wildlife Management, v. 79, no. 5, p. 695-703. Implications: The author concluded that timing of mortality, coupled with potential effects indicated by compensatory and additive mortality models, suggests that moving harvest to later in the year will not benefit GRSG populations and may have unintended negative consequences. Issue: Technique refinement: hunting season Significance: Reducing population effects but shifting hunting season Comments: Applies only to where GRSG are hunted

The BLM 2020 draft SEISs do not address or offer any substantive analysis or cumulative impact assessments of its management decisions.

Only after thoroughly analyzing these eminently reasonable, science-based sage-grouse habitat protections will BLM have given the requisite consideration to a range of reasonable alternatives under its plan amendment SEISs. (We also note that BLM did not provide a scoping period for the SEIS; this is WWP et al.'s first opportunity to provide comments on the scope of the 2020 draft SEIS.)

Also notable is BLM's claim that "it did not discover new information that would indicate the agency should increase the level of conservation, management, and protection to achieve its land use plan objective." New information on habitat and population declines clearly provides such "new information" suggesting that protections should be increased. Moreover, BLM's claim begs the question: did BLM discover new science suggesting the agency should decrease the level of conservation?

BLM has a NEPA duty to evaluate how baseline sage-grouse conditions have changed since its last analysis in the 2015 Plans and since BLM prepared its 2018 FEIS. The DSEIS, like the FEIS, is flawed

because it fails to look at updated data on sage-grouse populations and analyze the proposed actions against this new baseline.

The BLM's failure to consider updated population data is just one failing of the agency to take a hard look and use the best available science in informing its decision-making. In fact, population declines have continued across the species' range.

In Montana, the population dropped more than 40 percent in the past three years. MFWP 2019.

In North Dakota, a spring 2019 survey found just 29 male grouse, despite having supplemented the population with birds from Wyoming since 2017.<sup>10</sup> [https://bismarcktribune.com/news/state-and-regional/years-long-effort-to-save-sage-grouse-in-nd-takes-a/article\\_ff07b771-lad0-5861-8ea1-e2c7d2695805.html](https://bismarcktribune.com/news/state-and-regional/years-long-effort-to-save-sage-grouse-in-nd-takes-a/article_ff07b771-lad0-5861-8ea1-e2c7d2695805.html) ? In South Dakota and Washington, sage-grouse populations are vanishingly small.

WWP has gathered population data directly from state wildlife agencies and, upon review and analysis, verified the reported trajectories; presumably, the BLM should be able to obtain, analyze, and disclose the same downward trends in this SEIS process. BLM should provide a spatially explicit lek trend analysis, determining whether downward population counts are proximate to habitat impacts authorized by these plans, and/or whether management and land tenure makes a difference as to the population trajectory on leks. This analysis should include all of the states with Greater sage-grouse—including Washington, North and South Dakota, and Montana—not just the states included in the recent plan revisions.

Another new and relevant study pertaining to sage-grouse populations that should be considered is Edmunds et al. 2018, which discusses how the scale of a population analysis may obscure the site-specific population impacts of disturbance. BLM should collect the spatial population data for every state and take a fresh, hard look at the lek trends relative to the disturbances allowed by the plans.

The BLM must also consider the new scientific evidence that pinyon-juniper forests comprise an enormous amount of the Great Basin's potential for carbon storage. See Fusco, et al. 2019. The impacts of the vegetation treatment projects that BLM is promoting must be balanced against the loss of this potential. The BLM must also consider the new evidence that shows how coniferous forests are able to respond to climate change and analyze how the proposed vegetation projects undermine that potential.<sup>15</sup> BLM must also analyze how its habitat improvement projects for sage-grouse affect the habitat of other sagebrush species, such as mule deer. Morano et al. 2019. Additionally, the predictions of climate-adaptations and species movement should be used for determining the connectedness of sage-grouse populations and the need for more protected habitats, not fewer, as the 2019 plans provide.<sup>16</sup> <sup>15</sup> D. Scott Mackay, Philip R. Savoy, Charlotte Grossiord, Xiaonan Tai, Jonathan R. Pleban, Diane R. Wang, Nathan G. McDowell, Henry D. Adams, John S. Sperry. Conifers depend on established roots during drought: results from a coupled model of carbon allocation and hydraulics. *New Phytologist*, 2019; 225 (2): 679 DOI: 10.1111/nph.16043 <sup>16</sup> Lawler JJ, Rinnan DS, Michalak JL, Withey JC, Randels CR, Possingham HP. 2020 Planning for climate change through additions to a national protected area network: implications for cost and configuration. *Phil. Trans. R. Soc. B* 375: 20190117. <http://dx.doi.org/10.1098/rstb.2019.0117>

BLM seems to claim, in identical or virtually-identical appendices to the DSEISs, that the NTT Report and COT Report no longer represent the best available science on sage-grouse needs in light of new

State sage-grouse plans, or else that BLM relied on the best available science because it included the U.S. Fish and Wildlife Service as a cooperating agency in developing the 2019 sage-grouse plans, or else that it did not need to apply the best available science in the NTT Report, only consider it, and the Plans comply with the COT Report. See, e.g., WY DSEIS at I-3 to I-4; ID DSEIS at I-3. These statements are incoherent and inaccurate; sage-grouse habitat needs have not changed since 2011, nor has our scientific understanding of those needs, nor could the implementation of State plans alter sage-grouse biology. BLM's failure to apply the science-based recommendations set forth in the NTT Report was an error in its 2015 Plans that carried over in the 2019 Plans and persists in the rationalizations set forth in the DSEISs now.

The NTT Report set forth science-based protections recommended to protect sage-grouse from the effects of activities shown to be harmful to the species and its habitat. The reasons BLM gives for departing from NTT's recommendations reveal that BLM's motivation in this planning effort is not to implement protections the sage-grouse needs, but rather to loosen restrictions on activities known to harm the species.

BLM claims that it can depart from the NTT Report recommendations because IM-2012- 044 states "while [the NTT Report's] conservation measures are range-wide in scale, it is expected that at the regional and sub-regional planning scales there may be some adjustments of these conservation measures in order to address local ecological site variability." ID DSEIS at Appx. S-1-2 (emphasis added). But this highlights one of the problems with the Plans that we have repeatedly identified; adjustments to sage-grouse habitat needs identified in the NTT are not being made "to address local ecological site variability," they are being made based upon what is politically acceptable to powerful State and industry interests. BLM has not identified any science on "local ecological site variability" that would support its departures from the NTT report. Indeed, BLM's initiation of this new NEPA process to advance "management alignment" and backfill its decision to depart still farther from NTT's science-based recommendations only underlines that the process is being dictated by politics and not by what science says the species needs to survive and recover.

BLM makes much of the assertion that the NTT prescribes conservation measures that are applicable rangewide, and are not tailored to local conditions or political preferences. See, e.g., Northwest Colorado DSEIS at App-3-3, App-3-4. This is because NTT recommendations are based on the best available science, whereas politics are bound to influence local decision-making more so than science. . The habitat requirements of sage-grouse do not differ substantially from state to state, or from county to county. Sage-grouse require large tracts of undeveloped sage-grouse habitat, everywhere throughout their range. Sage-grouse are sensitive to industrial activity, and are disturbed and displaced by it, everywhere throughout their range. The large majority of sage-grouse nest within 4 miles of the lek site, everywhere throughout their range (and this has been shown in habitats as disparate as the cold deserts of western Wyoming (Holloran et al. 2005), the mixed-grass prairies of the High Plains in the Dakotas (Kaczor et al. 2011), and the hot deserts of Nevada (Coates et al. 2013)). Sage-grouse require at least 7 inches of grass height (10.2 inches in the far eastern end of their range) for hiding cover to maximize their nest success and ability to escape predation, and this has been demonstrated definitively from the shortgrass prairies on northeastern Wyoming (Doherty et al. 2014) to the arid deserts of the Great Basin in Oregon (Gregg et al. 1994). This objective, as listed in the objective table, needs to be an enforceable standard that is applied annually as a term of use for every livestock grazing lease.

The burden of proof is upon the BLM if they wish to show a scientific basis for altering protection measures from region to region, but there is no such scientific basis. Instead, BLM seeks only to defer to the desires of certain state and local governments, and industry lobbyists, to minimize sage grouse protections to levels that would be more profitable for local, politically influential industries, but detrimental to sage-grouse based on the best available science. The habitat requirements of sage-grouse do not differ significantly, rangewide, and it is therefore inappropriate for sage-grouse habitat protection thresholds to differ rangewide.

BLM seems to be trying to address its failure to adhere to the recommendations of the NTT Report by now claiming the NTT Report somehow does not represent the best available science. WY DSEIS at I-3. "Of course, agencies may change their policies over time. But an agency must at least display awareness that it is changing position and show that there are good reasons for the new policy." Oregon Nat. Desert Ass'n v. Rose, 921 F.3d 1185, 1190 (9th Cir. 2019), reh'g denied (July 3, 2019) (internal quotations omitted). BLM seems intent on ignoring that the NTT Report is still the only available resource recommending science-based measures to protect sage-grouse. Until BLM and other agencies produce equally robust and scientifically-supported recommendations on measures to protect sage-grouse, the NTT measures remain what science says is required to protect sage-grouse. The burden of proof is upon the BLM if they wish to show a scientific basis for altering protection measures from region to region, but there is no such scientific basis.<sup>38</sup> BLM posits that Carter et al. (2018) and Hanser et al. (2018) constitute significant advancements in the best available science on sage-grouse that should inform plan amendments. See, e.g., ID DSEIS at S-I-14. However, neither the annotated bibliography provided by Carter et al. (2018) - essentially a collection of abstracts - nor the Hanser et al. (2018) which adds two paragraphs of generalizations about the need for more sagebrush science and science-based management decisions to accompany its collection of abstracts (without making a single recommendation regarding a sage-grouse habitat protection threshold) attempt a current review of the science leading to science-based sage-grouse habitat management prescriptions. Which is not to say these publications are devoid of scientific value. Hanser et al. (2018) includes abstracts for papers by Shinneman et al. (2018) (reviewing the science and concluding that fuel break construction has no proven value for reducing the intensity or extent of fires in sagebrush habitats, while the impacts of fuel break construction to sage grouse are known and certain), Shinneman et al. (2019) (showing that fuel breaks could be vectors for cheatgrass invasion, fragment sagebrush habitats, and increase predation on sage-grouse by ravens and other predators), Pilliod et al. (2017) (showing that cheatgrass expands during wet years), Coates et al. (2016a) (fire and subsequent cheatgrass invasion have contributed significantly to sage-grouse declines in the Great Basin), and Coates et al. (2016b) (showing that the presence of livestock significantly increased raven occurrence, to the detriment of sage-grouse). However, for most of the key issues surrounding the appropriate levels of habitat protections under the Wyoming DSEIS (appropriate size of lek buffers, appropriate disturbance density, legitimacy of DDCT/BSU-level analysis of disturbance density thresholds, appropriateness of Wyoming lek buffers in PHMA or GHMA, appropriate allowable noise levels, or appropriateness of sage-grouse PHMA boundaries), the studies in these two compendia of abstracts are silent, and the best available science either was reviewed in the NTT report, or has been brought forward to the BLM's attention by conservation NGOs like WWP et al. in comments on the sage-grouse RMPA process.

In addition to arbitrarily downplaying the importance of the NTT Report, the DSEISs contains a misleading analysis of why the 2019 amendments are supposedly consistent with the COT Report. See, e.g., UT Appx 4 at 4-21; CO Appx 3 at App-3-16; ID Appx S-I at App-S-I-15; WY Appx F at App-F-15.

But the COT report was primarily focused on identifying threats to the sage-grouse, not on undertaking a comprehensive review of the scientific literature (as NTT did) nor recommending measurable sage-grouse protections based on that science to be applied in land-use plans (as NTT did). Simply complying with the COT Report (to the extent the Plans do) is not enough - they must also implement the protections required by NTT.

As someone who cares about birds and the places they need, I strongly oppose any changes to the BLM sage-grouse management plans from what was originally agreed to in 2015. The health of our nation's public lands is important to me. It is a legacy that we are passing on to future generations. BLM should focus on engaging communities in implementing the 2015 plans. In 2010, the U.S. Fish and Wildlife Service determined that Greater Sage-Grouse populations were in serious trouble and warranted protection under the Endangered Species Act. An unprecedented numbers of stakeholders across the West worked for many years on ensuring that sage-grouse management is based on science and good for local economies. The plans that were agreed to in 2015 led the USFWS to reverse its 2010 decision and find the future for sage-grouse was secure. Weakening the plans would not be good for western states, put years of good work to waste, and revive the risk of a threatened or endangered species listing that was averted in 2015. BLM must use this supplemental process to thoroughly evaluate how its proposed change in management direction is likely to harm Greater Sage-Grouse habitat and is inconsistent with accepted science that tells us to meaningfully protect it. An honest analysis should lead to a different conclusion. Management of our nation's public lands should be based on science and take the long-term needs of communities into consideration, not the short-term political gains of a few.

The DSEIS addresses the agency's past and present use of the 2011 National Technical Team report (NTT) and the 2013 Conservation Objectives Team report (COT). In general, ICA both approves of and encourages the agency's use of the best available science throughout the NEPA analysis process and when decisions are made. We have long maintained significant concerns with the 2011 National Technical Team report (NTT). Among other things, the NTT was a one-size-fits-all management prescription that treated livestock grazing as a primary threat, contrary to the COT Report and the best available science. Further, the use of the NTT report was problematic as it contained overly burdensome recommendations that were not based on local conditions in Idaho. The NTT report failed to make use of the latest scientific and biological information available. According to an independent review of the report, it contained many methodological and technical errors, selectively presented scientific information to justify recommended conservation measures, and was disproportionately influenced by a small group of specialist advocates. By contrast, the COT allows land managers to be more responsive to localized threats and concerns and emphasizes the importance for state-based plans.

Predation Author: Howe and Coates Year: 2015 Title: Observations of territorial breeding common ravens caching eggs of greater sage-grouse: Journal of Fish and Wildlife Management, v. 6, no. 1, p. 187-190. Implications: Modified from USGS Annotated Bibliographies (2018, 2019) or from each paper: Ravens can significantly influence reproductive success of GRSG at local scales, but population-level effects remain unclear. Breeding ravens may target GRSG nests more than nonbreeders. Declines of GRSG may be compounded by anthropogenic activities that have improved nesting habitat for ravens in sagebrush ecosystems. Supersedes NTT: Yes Supersedes COT: Yes Issue: predation; mitigation (Technique refinement) Significance: Predator management and mitigation Comment: Examined cause and effect mechanisms behind predation

Predation Author: Coates et al. Year: 2016 Title: Landscape characteristics and livestock presence influence common ravens-Relevance to greater sage-grouse conservation: *Ecosphere*, v. 7, no. 2, article e01203, 20p., <https://doi.org/10.1002/ecs2.1203>. Background: Over the last four decades, Implications: Modified from USGS Annotated Bibliographies (2018, 2019) or from each paper: Supersedes NTT: Yes Supersedes COT: Yes Issue: Predation mitigation; reducing GRSG nest and brood predation by ravens Significance: Anthropogenic subsidies; Ravens Comment: Important as it examined cause and effect mechanisms.

Predation Author: Dinkins et al. Year: 2016 Title: Effects of common raven and coyote removal and temporal variation on climate on greater sage-grouse nesting success: *Biological Conservation*, v. 202, p. 50-58 Implications: Modified from USGS Annotated Bibliographies (2018, 2019) or from each paper: The authors asked whether (1) changes in raven density and coyote abundance following removal efforts affected GRSG nest success and (2) weather conditions influenced these results for coyotes. Management of breeding and transient ravens may be a viable mitigation action in areas with high raven densities because it can reduce raven abundance and may increase GRSG nest success. However, long-term solutions, such as reducing supplemental food sources and perch structures, are necessary. Coyote removal likely results in lowered GRSG nest success because of the potential expansion of mesopredators (for example, badgers, skunks, and raccoons), which do better at smelling and thus locating and predating GRSG in wetter years. Supersedes NTT: Yes Supersedes COT: Yes Issue: Predation; Potetial mitigation (Technique refinement) Significance: Recommendations for more effective predator management; Mesopredator release after coyote removal Comment: Also, noted increased coyote predation on GRSG in wet years (like due to smell) - good investigation of cause and effect mechanisms.

Predation Author: Peebles et al. Year: 2016 Title: Effectiveness of the toxicant DRC-1339 in reducing populations of common ravens in Wyoming: *Wildlife Society Bulletin*, v. 40, no. 2, p. 281- 287. Implications: Modified from USGS Annotated Bibliographies (2018, 2019) or from each paper: Results indicated that raven populations near GRSG nests can be reduced through DRC-1339 poisoning. However, populations quickly recovered to pretreatment levels, suggesting that annual treatment may be needed. The authors also suggested limiting anthropogenic sources of food for ravens and frequently removing roadkill. Supersedes NTT: Yes Supersedes COT: Yes Issue: Predation (Technique refinement) Significance: Prioritization of management actions; raven management using DRC-1339 avicide

Predation Author: Walker et al. Year: 2016 Title: Mapping and prioritizing seasonal habitats for greater sage-grouse in Northwestern Colorado: *Journal of Wildlife Management*, v. 80, no. 1, p. 63-77. Implications: Modified from USGS Annotated Bibliographies (2018, 2019) or from each paper: Study in Northwestern Colorado. GRSG generally selected for vegetation characteristics at small spatial scales (100-400 m); terrain roughness was also a strong negative predictor at 100 m in all seasons. A mosaic of habitats with sagebrush are important in multiple seasons, and actions that increase sagebrush within 400 m and reduce forest within 100-400 m may be most beneficial. Topics: broad-scale habitat characteristics, new geospatial data, effect distances or spatial scale, behavior or demographics, habitat selection, site-scale habitat characteristics Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement; habitat mapping Significance: Imporved habitat mapping for enhancement (i.e. pinion-juniper removal) and mitigation.



Predation Author: Conover and Roberts Year: 2017 Title: Predators, predator removal, and sage-grouse-A review: Journal of Wildlife Management, v. 81, no. 1, p. 7-15. Implications: Modified from USGS Annotated Bibliographies (2018, 2019) or from each paper: This was a literature review of past studies of varying quality, methods, and conclusions. The authors concluded that predation is not a likely factor in rangewide GRSG trends, with the exception of ravens in recent years. Issue: Predation Significance: Literature review Comments: Caveat: literature review of papers looking at different predator species and using different methods.

Predation Author: Peebles et al. Year: 2017 Title: Adult sage-grouse numbers rise following raven removal or an increase in precipitation: Wildlife Society Bulletin, v. 41, no. 3, p. 471-478. Implications: Modified from USGS Annotated Bibliographies (2018, 2019) or from each paper: Supersedes NTT: Yes Supersedes COT: Yes Issue: Predation; mitigation (Technique refinement) Significance: Prioritization of management; Predator control Comments: Makes a connection between weather conditions and predator control, suggesting that when used in conjunction managers can increase GRSG survival.

Predation Author: Gibson et al. Year: 2018 Title: Effects of power lines on habitat use and demography of greater sage-grouse (*Centrocercus urophasianus*): Wildlife Monographs, v. 200, no. 1, p. 1-41. Implications: Modified from USGS Annotated Bibliographies (2018, 2019) or from each paper: There was support for GRSG avoidance of power lines to 10 km, for decreased demographic rates to 12.5 km, and for decreased population growth to 5 km. Multiple effects of transmission lines varied with raven abundance, which increased near the transmission line in this study. Some effects were small, highlighting the importance of long-term (10-20 year) studies of impact assessment. Transmission line effects on GRSG may be mitigated by decreasing raven numbers near the line, but the effectiveness of previous predator control and perch deterrent efforts have been inconclusive. Co-locating, burying, or routing lines outside of GRSG habitat may be options. Supersedes NTT: Yes Supersedes COT: Yes Issue: Transmission lines; associated predation; mitigation Significance: Potential mitigation of raven predation near transmission lines. Comments: Negative effects can be potentially mitigated

Predation Author: Kirol et al. Year: 2018 Title: Using DNA from hairs left at depredated greater sage-grouse nests to detect mammalian nest predators: Wildlife Society Bulletin, v. 42, no. 1, p. 160-165. Implications: Modified from USGS Annotated Bibliographies (2018, 2019) or from each paper: This study presents a novel, noninvasive, and cost-effective survey method that minimizes collection bias and can be used at larger spatial scales to gain insight on mammalian predators that influence GRSG nest productivity. It can also help to identify exotic predators that benefit from human subsidies and habitat modification. This method could be expanded to include other forms of DNA (e.g. feathers or saliva) for greater inference. Supersedes NTT: Yes Supersedes COT: Yes Issue: Predation (Technique refinement) Significance: Potential method for identifying mammalian predators of GRSG nests. Comment: Trail cameras at nests would provide data with shorter turn-around time.

Predation Author: O'Neil et al. Year: 2018 Title: Broad-scale occurrence of a subsidized avian predator-reducing impacts of ravens on sage-grouse and other sensitive prey: Journal of Applied Ecology, v. 55, no. 6, p. 2641-2652., <https://doi.org/10.1111/1365-2664.13249> Implications: Modified from USGS Annotated Bibliographies (2018, 2019) or from each paper: The authors proposed that their anthropogenic influence index can be used to identify priority areas where ravens are more likely to affect GRSG. It can also be used to target where management of anthropogenic features can help reduce raven expansion. Finally, they argued that their methods can be applied to the management of other

generalist predators. Supersedes NTT: Yes Supersedes COT: Yes Issue: predation (Technique refinement) Significance: Prioritization of management; improved methodology for more effective predator management

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Predation Author: Smith et al. Year: 2018 Title: Phenology largely explains taller grass at successful nests in greater sage-grouse: *Ecology and Evolution*, v. 8, p. 356-364 Implications: The available evidence for a causal relation between grass height and nest success was weak, although grass height remained positively correlated with nest survival in the Powder River Basin of Wyoming after correction. Variations in results suggested that taller grass may be beneficial to nest survival in some circumstances (such as where shrub cover is low), but this explanation was not supported by the data analyzed here. Nest site selection or other life stages (for example, brood survival) may be affected by the structure of grasses. The authors suggested that findings from previous studies may have led to an overemphasis of the role of grass height in GRSG nesting habitat quality. Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement: habitat quality mapping Significance: Grass height is over emphasized in evaluating habitat quality.

Predation Author: Dudko et al. Year: 2019 Title: Movements of female sage grouse *centrocercus urophasianus* during incubation recess: *IBIS*, v. 161, no. 1, p. 222-229. Implications: Data suggest that a larger area around nests than previously thought may be important for nesting success, which is an important consideration in determining minimum patch sizes needed for nesting and appropriate spatial scales for evaluating nesting habitat. The flights associated with recesses may expose GRSG to predation by ravens. Striking vertical structures during these flights, which typically occur during low light conditions, may be a mortality risk. Issue: Predation risk; Potential mitigation Significance: Ravens Comments: Provides a behavioral mechanism for susceptibility to raven predation, and therefore informs better predator control methods.

Predation Author: Kammerle and Storch Year: 2019 Title: Predation, predator control and grouse populations: a review: *Wildlife Biology*, article wlb.00464, 12 p., <https://doi.org/10.2981/wlb.00464>. Implications: Well-designed predator control programs are likely to cause short-term benefits to various grouse species. However more research is needed, particularly on how the competitive interactions of predator species influence grouse predation risk and whether removing certain predator species may have unintended cascading effects. Supersedes NTT: Yes Supersedes COT: Yes Issue: Predation; mitigation (Technique refinement) Significance: Predator management Comments: Looked at cause and effect mechanisms behind unintended consequences.

Predation Author: Smith et al. Year: 2019 Title: Approaches to delineate Greater Sage-grouse winter concentration areas: *The Journal of Wildlife Management*, v. 83, no. 7, p. 1495-1507. Implications: The

authors suggest that individual-based resource selection function models(RSF) can be useful when data on flock sizes are not available in winter concentration areas. They also suggest that their survey and modeling approach was constructive for identifying habitat selection and determining whether currently protected areas are adequate for all seasons of use by GRSG (. They conclude that an important amount of GRSG winter habitat might not be adequately protected by Core Areas in Wyoming (although this conclusion is not well justified). Issue: Potential technique refinement Significance: This is duplicative of other methods to delineate winter habitat.

Analysis and mitigation to address impacts of predation of sage-grouse should also be taken into consideration. NACD encourages BLM to work with state and local governments and other appropriate federal agencies (such as U.S. Fish and Wildlife Service and USDA-Wildlife Services) to determine the most sensible approach to reduce the impacts of predation. Species such as the Common Raven have a disproportionate impact on sage-grouse but also have paradoxical protections under the Migratory Bird Treaty Act

The DSEISs and the BLM still haven't taken a hard look at the effects of anthropogenic infrastructure and the subsidization of sage-grouse predators. We have provided extensive discussions of this in the past, but BLM continues to ignore the fact that its actions are creating improved conditions for predatory species such as ravens. Three new papers illuminate raven interactions with sage-grouse. Harju et al. (2018) discusses breeding ravens' use of structures (including oil and gas facilities) and the differences in the use of space between breeding and non-breeding ravens, which has implications for raven management that induces nest failure (such as oiling eggs) as a means for affecting predation on sage-grouse. O'Neil et al. (2018) provide spatial information about the effects of anthropogenic infrastructure and discuss how removing these subsidies could assist in preventing raven predation on sage-grouse. Dudko et al. (2019) posit that movements by sage hens assist in raven detection of nests, and that habitat important for nesting "may be more extensive than previously appreciated."

Habitat Improvement Author: Davee et al. Year: 2019 Title: Using beaver dam analogues for fish and wildlife recovery on public and private rangelands in Eastern Oregon: Research Paper PNW-RP-617. Northwest Climate Hub, U.S Department of Agriculture, Forest Service, Pacific Northwest Research Station, p. 32. Implications: Beaver dam analogues can improve habitat for fish and wildlife, including GRSG, but implementing this tool may require navigating new or yet-to-be established regulatory pathways and obtaining buy-in from private landowners and ranchers is an important consideration for increasing implementation of this tool. Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement; Mitigation; Habitat restoration Significance: Innovative method for habitat restoration; habitat expansion Comments: Expands mesic areas making them more resilient (potentially useful for drought/climate mitigation and/or conservation offset).

Mining Author: Pratt and Beck Year: 2019 Title: Greater sage-grouse response to bentonite mining: The Journal of Wildlife Management, v. 84, no. 4, p. 866-879 Implications: Modified from USGS Annotated Bibliographies (2018, 2019) or from each paper: In general, the adverse effects of bentonite mining on GRSG appear to be consistent with those of energy development. A greater proportion of the Bighorn Basin GRSG population is affected by mining during the winter season than at other times of the year. Therefore, prioritization of winter habitat may be a key management strategy there. Further, reclaimed mines remain unsuitable for GRSG due to slow regeneration of sagebrush cover, so intense promotion

of sagebrush regeneration is important for restoring GRSG habitat. Issue: bentonite mining impacts  
Significance: Reclaimed mines not utilized by GRSG due to slow regeneration

Re-setting noise limits to a maximum of 25 dBA, in accordance with the best available science;

Sage-grouse lek population declines occur once noise levels exceed the 25 dBA level. With this in mind, ambient noise levels should be defined in all plans as 15 dBA and cumulative noise should be limited to 25 dBA in occupied breeding, nesting, brood-rearing, and wintering habitats, which equates to 10 dBA above the scientifically-derived ambient threshold.

### **S-3.3.8 Direct/Indirect Impacts**

Lastly, the terms "minor", "negligible", "similar", and "no measurable effects" run rampant throughout Chapter 4, however, none carry any objective definitions relative to the currently proposed alternatives. For example, consider Section 4.11 Impacts on Livestock Grazing Subsection 4.11.2 Management Alignment Alternative: "Despite minor differences between the actions described in the Management Alignment Alternative and those analyzed in the 2015 Final EIS, the difference between the nature and type of impacts described would be negligible.

These impacts are discussed in Section 4.10 of the 2015 Final EIS." Modification of management procedures and stipulations regarding millions of acres of public land is hardly "minor," therefore, the impacts of such modifications cannot be "negligible." Furthermore, referencing an impact analysis corresponding to the current policy as analyzed in the past bears no merit to a "hard look" at impacts pertaining to the proposed modification of the current policy relative to its potential impacts in the future.

There is an inadequate analysis of the impacts to sage-grouse and sagebrush habitat from the proposed management changes, including increased oil and gas leasing, reduced mitigation, elimination of buffers, and the increased opportunity to use waivers, exemptions or modifications to oil and gas permit stipulations including within priority sage-grouse habitat. The conclusion that these changes will have no additional impact to sage-grouse populations is not supported. Allows county governments to determine whether waivers should be allowed rather than the scientists from the state wildlife agencies and U.S. Geological Survey.

The proposed management changes in the EIS which include increased oil and gas leasing, reduced mitigation, and oil and gas permit stipulations either being reduced or eliminated in sage grouse priority habitat are profoundly significant changes yet the document states that these changes will have no significant impact-- a conclusion that simply makes no sense. These changes will instead have significant impact.

It is imperative the scope of the current SEIS process be expanded to include robust examinations of multiscaled assessments of sage-grouse population-level response to direct, indirect, and cumulative impacts associated with management alternatives. Informed decision-making requires scientifically-valid approaches to assessing these impacts that expressly take into account the uncertainty and risk inherent in sagebrush habitat management.

### **S-3.3.9 Assumptions and Methodology**

The attempts by the BLM to weaken the 2015 plan are putting our sagebrush ecosystem, and the hundreds of species that rely on it, at risk. The proposed changes to the 2015 plan contradict scientific recommendations for conserving greater sage-grouse, and the supplemental environmental impact statement fails to analyze and acknowledge the negative impacts that will result from the agency's proposed change in management direction.

### **S-3.3.10 Cumulative Impacts**

In the 2019 Plan Amendments, BLM failed to conduct sufficient analysis of the proposed changes. As an example, the court found that BLM did not justify limiting its cumulative effects analysis to state boundaries, finding "sage grouse range covers multiple states and that a key factor - connectivity of habitat - requires a large-scale analysis that transcends the boundaries of any single State." *WWP v. Schneider*, 417 F.Supp.3d at 1333. Although the court noted BLM's unique position in being able to analyze cumulative impacts over the entire range of sage-grouse, the Draft Supplemental EISs ignore the opportunity to conduct a sufficient analysis. Instead, BLM states: Conditions on public land also have changed little since the 2015 Final EISs, and to the extent that there have been new actions or developments, the impacts associated with those actions or developments are in line with the projections in the 2015 Final EISs regarding reasonably foreseeable actions and effects. . . . Since the nature and context of the cumulative effects scenario has not appreciably changed since 2015, and the 2015 analysis covered the entire range of the Greater Sage-Grouse, the BLM's consideration of cumulative effects in the 2015 Final EISs adequately addresses most, if not all, of the planning decisions to be made through this planning effort. Nevada Draft SEIS, pp. 4-53. This statement outright rejects the purpose of supplemental analysis, which is to supplement previous analysis to address impacts that have not yet been sufficiently considered, and ignores the substantial changes in condition on public lands. The 2019 Plan Amendments present sweeping changes across sage grouse range, yet fail to analyze large-scale impacts, as found by the court. Similar to the Richardson case, "BLM neglects the fundamental nature of the environmental problem at issue" that location of development widely influences the impacts on wildlife. 565 F.3d at 705. Reliance on previous analysis utterly fails to address the need for additional environmental review.

The court also found that BLM must conduct a "robust cumulative impacts analysis" but did not take into account impacts outside of state boundaries, even though "the sage grouse range covers multiple states and that a key factor - connectivity of habitat - requires a large-scale analysis that transcends the boundaries of any single State." *WWP v. Schneider*, 417 F.Supp.3d at 1332.

Instead of expanding its cumulative impacts analysis to the requisite scope, BLM made no changes and states: Since the nature and context of the cumulative effects scenario has not appreciably changed since 2015, and the 2015 analysis covered the entire range of the Greater Sage-Grouse, the BLM's consideration of cumulative effects in the 2015 Final EISs adequately addresses most, if not all, of the planning decisions to be made through this planning effort. Nevada Draft SEIS, p. 4-55. This is the same statement that BLM included in the 2019 Amendments. Further, the cumulative impacts analysis does not appear to address leasing and development that has occurred since 2018, which makes a significant contribution to overall impacts across the species' range. See, Appendix H (Cumulative Effects Supporting Information); Nevada Draft SEIS, p. 4-55. The BLM is required to consider the cumulative environmental impacts to sage-grouse and sage- grouse habitat in these FEISs. Cumulative environmental impacts are defined as: The impact on the environment which results from the incremental impact of the

action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such actions. 40 C.F.R. § 1508.7. "Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." Id. Cumulative impacts must be considered in the scope of an EIS. Id. § 1508.25(c). BLM has not complied with this requirement, which would require evaluation of the impacts of the changes in the 2019 Amendments across the range of the sage-grouse, including population declines, loss of habitat to fire, the likely effects of fuel breaks projects, and the impact of increased oil and gas leasing and drilling.

Cumulative Impacts ? We agree with using the cumulative effects analysis (CEA) of the 2015 FEIS as a fundamental data to identify the additional cumulative impact. However, there is no clear information about the past cumulative effects analysis in the 2019 DEIS. It will impede public review and confuse decision makers. We request that it is made clear that the CEA in 2015 FEIS must appear in the 2019 EIS. According to the past cumulative effects analysis, the 2019 EIS also needs to clearly provide additional cumulative impacts between 2015 FEIS and 2019 EIS. ? The CEA does not include all relevant activities, with oil and gas projects in Wyoming and other scheduled lease sales not contributing to the assessment. We ask that the BLM consider all relevant activities while conducting the CEA. When writing the FEIS, we ask that the BLM provide all past, present, and expected actions that will impact connected projects. ? Although Management Action 4 would allow Greater-Sage Grouse to be considered through site-specific analysis, it seems safer to keep the specific language regarding Greater-Sage Grouse in the Proposed Plan in Wyoming. This would guarantee that the Greater-Sage Grouse is considered when taking action. ? The preservation of Greater-Sage grouse habitat is vital, and millions of dollars have been spent protecting the species. Regarding the use and development of sage grouse critical habitat mentioned in the Unavoidable Adverse Impacts, a no net loss policy should be implemented to at least maintain the current amount of habitat available.

The counties have consistently opposed range-wide cumulative effects analysis and opposed the use management zones that go beyond a local BLM field office planning area or a particular National Forest. The counties' position on this has not changed. However, as to the question whether the DSEIS has clarified that the cumulative effects analysis was done at the range wide level organized by WAFWA management zones

Science-based Decision Making Data-driven, statistically-sound assessments of potential responses of sage-grouse populations and habitats to proposed management are necessary to ensure informed decision-making. Yet, the BLM in the 2020 Draft SEISs does not offer any substantive analysis of the indirect and cumulative impacts to sage-grouse of its management decisions. Given current circumstances, rigorous cumulative impact assessments are especially important because of BLM's reliance on the largely disjunct set of management approaches being implemented across the species' range (i.e., state-to-state coordination is limited). The BLM has failed to inform its decision making by not conducting rigorous impact analyses. This oversight will likely jeopardize the agency's ability to meet sage-grouse management goals.

NEPA requires adequate disclosure of the cumulative impacts of the proposed action "when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such actions." 40 C.F.R. § 1508.7. If separate proposed actions themselves are connected or cumulative, they must be analyzed in a single EIS. Id. § 1508.25(a). Here, BLM improperly fragmented its analysis into six EISs, in violation of 40 C.F.R. § 1508.25(a), and then also

failed to conduct any meaningful cumulative impacts analysis within each EIS, in violation of 40 C.F.R. § 1508.25(c).

For example, the oil and gas leasing cumulative effects supporting data for the NW Colorado, Nevada/California, Utah, and Wyoming SDEIS analyses is out of date or non-existent. The Utah DSEIS does not include acreages for oil and gas lease sales held after December 2018 or that are currently pending, even though these lease sales include designated sage-grouse habitat management areas, which means that BLM is using outdated information for its decision-making.<sup>25</sup> See Nevada/California DSEIS at H-4 and Utah DSEIS at D-8.

It is arbitrary and capricious for BLM to consider oil and gas leasing acreages in its sage-grouse plan NEPA analyses for some states but not all. Moreover, all of these acreage omissions must be remedied in the FSEIS for each state with oil and gas leasing. In order that BLM can make an informed decision about these greater sage-grouse plans, cumulative effects oil and gas leasing acreages should include both an acreage total and acreage breakouts by sage-grouse habitat management area type.

### **S-3.3.11 Adaptive Management**

However, we oppose the universal retention as to "Land Tenure"; we oppose the universal avoidance of "Rights-of-way" in PHMA and IHMA, and we oppose the universal limited access as to "Travel management" - for the reasons we previously addressed in our comments. Specifically, flexibility should be added to adjustments in "Land Tenure", to "Rights-of-Way", and to "Travel Management" relative to site conditions in any FSEIS and plan amendments.

The SEISs also must disclose the known flaws in the methodology of Coates and others, which has resulted in some questions about the triggering changes from various states. The BLM should revisit all the states' data to see where triggers have been met with new and improved methods, and explain in the forthcoming EISs what causal factor analyses have resulted in which adaptive management changes

### **S-3.3.12 Burial of Transmission Lines**

Wind Turbines and Transmission Lines Author: LeBeau et al. Year: 2017 Title: Greater sage-grouse habitat selection, survival, and wind energy infrastructure: Journal of Wildlife Management, v. 81, no. 4, p. 690-711. Implications: Modified from USGS Annotated Bibliographies (2018, 2019) or from each paper: GRSG appeared to select nest sites without regard to wind energy infrastructure but avoided such infrastructure during brood rearing and summer. Stronger effects of disturbance associated with wind energy on brood-rearing habitat selection in the later time period suggest a lagged population-level response. GRSG survival did not appear to be negatively affected by the facility. Supersedes NTT: Yes Supersedes COT: Yes Issue: Wind energy; GRSG habitat use and survivorship Significance: Apparent lag effect of wind energy infrastructure.

Wind Turbines and Transmission Lines Author: Kohl et al. Year: 2019 Title: The effects of electric power lines on the breeding ecology of greater sage-grouse: Plos One, v. 14, no. 1, p. E0209968., <https://doi.org/10.1371/journal.pone.0209968> Implications: Modified from USGS Annotated Bibliographies (2018, 2019) or from each paper: The authors proposed 2.3 km buffer zones around active leks as a best management practice for new transmission line construction. They also proposed site-specific management for distribution lines, and colocation with existing disturbances for all new

power lines. Maintenance of sagebrush cover around power lines may improve GRSG habitat suitability, despite the presence of human disturbance. Issue: Mitigation Significance: Transmission lines

Wind Turbines and Transmission Lines Author: LeBeau et al. Year: 2019 Title: Greater Sage-grouse habitat function relative to 230-kV transmission lines: The Journal of Wildlife Management, p. 1-14. Implications: Modified from USGS Annotated Bibliographies (2018, 2019) or from each paper: The authors suggest that future transmission line placement decisions should consider potential negative effects on GRSG habitat and demographics and that transmission lines should be located in areas of lower GRSG habitat suitability and greater than 3.1 km from occupied leks if possible. Issue: Mitigation Significance: Transmission lines

### **S-3.3.13 Disturbance and Density Caps**

Uniquely among the ARMPPAs, the Wyoming 2019 RMPA applied a disturbance density cap of 5% in PHMA rather than the 3% applied under other plans. The DSEIS fails to explain why sage-grouse in Wyoming are more tolerant of disturbance than other states, or indeed, more tolerant than the best available science demonstrates. Knick et al. (2013) concluded that 99% of the active leks in the study area (encompassing the entire western range of the greater sage grouse) were surrounded by habitat with 3% or less surface disturbance (defined using GIS as residential or industrial development). Kirol (2012), found for his Wyoming study area that surface disturbance greater than or equal to 4% of the land area had a significant negative impact on greater sage grouse brood rearing habitat.

### **S-3.3.14 Habitat Management Area**

Definitions and management actions associated with BLM habitat designations need to be removed from private land as they apply specifically to BLM administered lands; therefore there is no basis for including private land in density and disturbance calculations.

As Simplot noted in previous comments to the Draft ARMPPA, the Final EIS and DSEIS continue to fail to disclose the basis by which private lands can be considered in a federal land management planning document. This seems to suggest a de-facto critical habitat designation without a listed endangered or threatened species. While section 4 of the ESA can take into consideration conservation efforts on state and private lands to avoid a listing, BLM has no authority under FLPMA to apply land use plan restrictions on private land. The Draft RMPA, the Final EIS and the DSEIS continue to apply Sage-Grouse habitat management area definitions, designated through the BLM planning process specifically for BLM administered land, to private land (including Planning Area, PHMA, IMHA and BSUs).

The DSEIS offers absolutely no science-based justification for the "modification" of HMAs. The only justification that can be ascertained from the document amounts to nothing more than an argumentum ad verecundiam opinion: "BLM recognizes that landscape level mapping may not accurately reflect on-the-ground conditions. Therefore, the HMAs (Figure 2-1 b) do not constitute a land use plan decision but rather a landscape level reference of relative habitat suitability. " (DSEIS Table 2-2b). Clearly as based on fundamental logic, HMAs constitute a land use plan decision because each HMA requires an explicit set of stipulations regarding how the land is utilized within each HMA. For example, as defined in the 2015 ARMPPA for the Great Basin, SFAs are not simple "landscape level mapping" that "may not accurately reflect on-the-ground conditions". Rather, SF As are areas identified by interagency GRSG experts based on on-the-ground research that has occurred for decades. SF As are thus identified by the U.S. Fish and Wildlife Service (FWS) as GRSG "strongholds" and represent "a subset of priority habitat



most vital to the species persistence within which we recommend the strongest levels of protection" (2015 ARMP A, Page I-16). "The strongest levels of protection" can be further defined as No Surface Occupancy (NSO) to be applied without waiver, modification, or exception.

For example, consider W AFW A MZ III. How many acres of each HMA designation will be removed? How many acres are currently leased and planned to be leased for Minerals and Energy? How will modification of each HMA designation in W AFW A MZ III change the current HMA designation stipulations relative to Minerals and Energy development requirements? How many acres of currently leased and planned to be leased public lands for Minerals and Energy development occur in SF As? How would removal of SF As and their associated "NSO without waiver, exception, or modification, for fluid mineral leasing" stipulation both directly and indirectly impact GRSG?

In order to take a hard look, the DSEIS needs to consider the effects of existing management and predict the impacts of future decisions. Without considering the current context of population and habitat triggers in each state, the agency is failing to take a hard look at its proposed amendments.

Aside from a brief, but incomplete (and already now outdated) narrative summary, the DSEIS fails to provide a full and clear listing of the PACs and tripped triggers, and how they relate to the key RNAs. BLM fails to include its Causal Factor Analyses ("CFA"), including the worksheets, annual review documents, and full reports, as an appendix to the EIS or otherwise. In fact, we understand that BLM has failed to complete many of the required CFAs. Again, the DSEIS fails to discuss this information essential to meaningful public review and informed agency decision making.

These results show that the ARMPA sage-grouse protections are not having the desired effect of recovering sage-grouse populations and habitats, but instead that populations and habitats across the West continue to deteriorate and "trip triggers" toward more intensive management actions. Thus, the BLM is using more protective management as a backstop when populations and habitats are in trouble instead of preventing the trouble in the first place through adequate regulatory mechanisms. The DSEIS is being issued in this context, and the BLM must take a hard look at this information in assessing the impacts of the proposed plans, including the effects on the ground of existing management.

Nor can BLM write off the tripping of these triggers as unrelated to management and excuse its failure to rein in industrial uses of sage-grouse habitats that way. Regardless of whether BLM management or some other factor is the direct cause of population declines and habitat degradation, BLM should address those problems by limiting known disturbances in sage-grouse habitats. To the extent the existing Plans or revised Plans allow the agency to do otherwise, they are inadequate to protect sage-grouse.

The 2019 amendments in certain states purport to allow BLM to adjust habitat management area boundaries through plan maintenance. These provisions must be cabined to ensure compliance with BLM land-use planning regulations, which provide that land use plan maintenance is only proper to reflect "minor changes in data." 43 CFR § 1610.5-4 (emphasis added) Thus, plan maintenance cannot properly be used to make anything exceeding a minor adjustment to habitat boundaries. See also *Klamath Siskiyou Wildlands Ctr. v. Boody*, 468 F.3d 549 (9th Cir. 2006) ("whenever resource management plans are changed in any meaningful way, the changes must be made via amendment (i.e., supported by scientific environmental analysis and public disclosure"); see also *Conservation Nw. v.*

Sherman, 715 F.3d 1181, 1186 (9th Cir. 2013) (observing that there is a "low threshold to trigger formal amendment procedures").

### **S-3.3.15 Habitat Objectives**

Section: 2.5 Page: 2-23 Paragraph/Line/Figure/Table: Table 2-2b Issue: Modifying Habitat Objectives

Comment: No-Action Alternative: We do not support this approach as it does not allow for incorporation of the best available science that has emerged since, was not considered or was omitted previously, or will emerge. Additionally, the Habitat Objectives themselves are not achievable, applicable, or warranted in many areas of GRSG range, particularly in those areas that have crossed an ecological threshold to some other state. Setting objectives that are not SMART - specific, measurable, achievable, relevant, and time-certain - violates the BLMs own planning handbook. Proposed Plan Amendment: We generally support this alternative and the ability to incorporate best available science moving forward as well as the clarification as to how objectives are to be viewed and implemented. The following suggested revisions are intended to strengthen this alternative. Please revise the second paragraph to read "The Habitat Objectives (Table 2-2) in the 2015 Final EIS would be implemented following this guidance: The Habitat Objectives (Table 2-2) in the 2015 Final EIS are desired habitat conditions that are broad goals based on Greater Sage-Grouse habitat selection that may not be achievable or applicable in all areas. The ability of a site to achieve the objectives should be based on site potential informed by ecological site descriptions, state-and-transition models, Disturbance Response Groups, etc. We also request adding a citation to the MOU that BLM and other federal agencies signed with NRCS regarding update and use of ESDs. The following references also support the use and application of these tools: \* BOLTZ, S., AND G. PEACOCK. 2002. Ecological sites: understanding the landscape. *Rangelands* 24:18-21. \* BRISKE, D.D., B.T. BESTELMEYER, T.K. STRINGHAM, AND P.L. SHAVER. 2008. Recommendations for development of resilience based state-and-transition models. *Rangeland Ecology & Management* 61:359-367. \* SOIL SURVEY DIVISION STAFF. 1993. Soil survey manual. Soil Conservation Service US Department of Agriculture Handbook 18. \* STRINGHAM, T.K., P. NOVAK-ECHENIQUE, P. BLACKBURN, C. COOMBS, D. SNYDER, AND A. WARTGOW. 2015. Final report for USDA ecological site description state-and-transition models, Major Land Resource Area 28A and 28B Nevada. University of Nevada Reno, Nevada Agricultural Experiment Station Research Report 2015-01. p. 1524. Available at: <http://www.cabnr.unr.edu/resources/MLRA.aspx>. \* STRINGHAM, T.K., P. NOVAK-ECHENIQUE, P. BLACKBURN, D. SNYDER, AND A. WARTGOW. 2015. Final report for USDA ecological site description state-and-transition models by disturbance response groups, Major Land Resource Area 25 Nevada. University of Nevada Reno, Nevada Agricultural Experiment Station Research Report 2015-02:572. Available at: <http://www.cabnr.unr.edu/resources/MLRA.aspx>. \* STRINGHAM, T.K., P. NOVAK-ECHENIQUE, D. SNYDER, S. PETERSON AND K. SNYDER. 2016. Disturbance Response Grouping of Ecological Sites Increases Utility of Ecological Sites and State-and-Transition Models for Landscape Planning in the Great Basin. *Rangelands* 38(6):371-378. Previous Unaddressed Comment on 2019 RMPA?: Yes

The DSEIS adequately addresses fragmentation within management areas on an individual scale. This is problematic because the management plans don't properly address fragmentation between management areas. This inadequacy is alarming from an ecological standpoint due to the likelihood of speciation.

Habitat Improvement Author: Pyke et al. Year: 2015 Title: Restoration handbook for sagebrush steppe ecosystems with emphasis on greater sage-grouse habitat-Part I. Concepts for understanding and applying restoration: U.S. Geological Survey Circular 1416, 44 p. Implications: This report will help

resource managers make decisions about where and how to conduct restoration treatments in former sagebrush ecosystems for the benefit of sagebrushobligate species like GRSG. Topics: broad-scale habitat characteristics, fire or fuel breaks, habitat restoration or reclamation, nonnative invasive plants. Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement Significance: Prioritization of management Comments:

Habitat Improvement Author: Pyke et al. Year: 2015 Title: Restoration handbook for sagebrush steppe ecosystems with emphasis on greater sage-grouse habitat-Part 2. Landscape level restoration decisions: U.S. Geological Survey Circular 1418, 21 p Implications: This report and the decision tool that it describes will help resource managers make decisions for prioritizing landscapes for restoration work. Once priority landscapes are determined, managers can move to selecting sites for restoration and use Part 3 in the handbook series. Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement Significance: Prioritization of management

Habitat Improvement Author: Pyke et al. Year: 2017 Title: Restoration handbook for sagebrush steppe ecosystems with emphasis on greater sage-grouse habitat-Part 3 . Site level restoration decisions: U.S. Geological Survey Circular 1426, 62 p Implications: This report and the tool it describes will help resource managers make decisions that should enhance their success in restoring sagebrush ecosystems and thus GRSG habitat at an individual site. Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement Significance: Prioritization of management

The BLM made no meaningful effort to look at the habitat conditions and trends across sage grouse range in the DSEISs, despite this being identified as a major failing of the 2019 plans. Instead, the BLM touts the acres of vegetation "treatments" on the plans' cover pages, without acknowledging that some of these "treatments" are untested, unsuccessful, and may not result in actual sagebrush restoration for many decades, if ever. The mere fact that treatment has occurred does not indicate that the habitat has successfully been restored. In fact, habitat conditions and trends across the range show widespread degradation.

It is not sufficient to protect only sage-grouse breeding, nesting, and brood-rearing habitats; if sage-grouse cannot survive the winter due to degradation or industrialization of their winter habitats, populations will decline toward extirpation. PHMAs were designated on the basis of buffers around active lek sites, which encompass the breeding and nesting habitats used by grouse during spring and summer. But protecting wintering habitats is equally important to assuring the continued existence and ultimate recovery of the species, and these wintering habitats are frequently located outside the protective boundaries of designated Priority Habitats. BLM's analysis highlights the importance of protecting these habitats. Haak (2020, Attachment O) demonstrates that the 2019 plans are insufficiently protective of all sage-grouse habitats, and states, in her professional opinion: I was also concerned by BLM's failure to assess the conservation value of peripheral sage-grouse populations and habitat. For example, in discussing the impacts of the elimination of GHMA in Utah, BLM asserts that "there would be no significant effect of accelerating the impacts on the small populations in former GHMA[.]" See Utah FEIS at 4-21. This statement fails to consider that peripheral sage-grouse populations and habitats help ensure the species continues to exist by contributing to redundancy, representation, and resilience. See U.S. Fish and Wildlife Service, Greater Sage-grouse (*Centrocercus urophasianus*) Conservation Objectives: Final Report (Feb. 2013) ("COT" Report), at 12- 13. As explained above, recent studies have also emphasized the importance of the landscape outside of PHMA

as stopover habitat for long-distance migrants and corridors to seasonal habitats (Newton et al. 2017; Crist et al. 2015) as well as pathways for genetic connectivity and dispersal from population centers to low population areas around the range margins (Cross et al. 2018; Heinrichs et al. 2018; Row et al. 2018). These surrounding habitats are also important for the preservation of conservation options as environmental conditions change (Burkhalter et al. 2018). BLM's FEISs failed to consider these values provided by GHMA and other non-priority habitats. Haak's observation here applies equally to wintering habitats outside of the protected HMAs. The DSEISs do nothing to reconcile this inadequacy, but forthcoming iterations of the plans should identify wintering habitats, connectivity corridors, and marginal habitats (including habitats and populations in Washington and the Dakotas, which have basically been written off by BLM in these revisions). Cross et al. (2018) provide the genetic analysis of sage-grouse networks that demonstrate the relative importance of each sage-grouse population to the maintenance of resilient and viable populations over time. Row et al. (2018) provides spatial insights into maintaining functional connectivity and causal resistance. Ricca et al. (2018) also provides insights into the significance of management on species distribution, resilience, and resistance.

Retaining 7-inch residual grass height requirements in lands currently designated as PHMA and IHMA and increase grass-height requirement effectiveness by adding a requirement that this provision be applied each spring to all BLM grazing allotments;

### **S-3.3.16 Lek Buffers**

Kirol et al. (2020)<sup>17</sup> studied greater sage-grouse at six locations across Wyoming from 2008-2014, measuring the impacts to grouse of both fossil fuel energy and renewable energy. Kirol et al. found that ongoing surface disturbance from energy development within 8 km (4.97 miles) of a greater sage-grouse nest decreased the likelihood of nest success. Sage-grouse broods within 1 km (0.62 miles) of ongoing surface disturbance from energy development were less likely to survive than those further away. As ongoing disturbance increased, sage-grouse nests had an increasing rate of failure. Furthermore, female sage-grouse avoided habitat with higher levels of disturbance in favor of habitat with lower levels of disturbance. This means that current BLM greater sage-grouse nest buffers are too small to conserve grouse and implementing disturbance caps of 3-5% does not eliminate the negative impacts of ongoing disturbance on nest survival. While this paper is specific to leks in Wyoming, it should be used in each of the forthcoming SEISs as evidence of the inadequacies of current and proposed regulations.

The 2011 NTT Report and the 2013 COT Report did not receive adequate peer review and suffered from a number of substantive flaws including: ignoring substantial threats such to the Greater Sage Grouse such as predation in favor of unsupported conjectures regarding human impact; failure to account for natural population fluctuations due to weather patterns; not using the best available science, and were policy rather than science driven. These flawed reports suggested the adoption of equally flawed measures that became central to the 2015 planning effort including the designation of Sage Brush Focal Areas (SFAs) and the establishment of lek buffers. Rather than using the established land management tools, the SFA framework was formalized in the pronouncement of an October 27, 2014 memorandum from former FWS Director Dan Ashe entitled "Greater Sage-grouse: Additional Recommendations to Refine Land Use Allocations in Highly Important Landscapes". Similarly, the application of lek buffer distances was integrated into another document previously not available or included in the DEIS for public review: a U.S. Geological Survey (USGS) report entitled Conservation Buffer Distance Estimates for Greater Sage-grouse - a Review, USGS Open File Report 2014 1239. Both SFAs and lek buffer distances were allowed to evolve from the NTT and COT reports into the 2015

plans without receiving adequate review and comment and in place of utilizing existing conservation tools already available.

Improved Habitat Mapping and Assessment Author: Dahlgren et al. Year: 2016 Title: Evaluating vital rate contributions to greater sage-grouse population dynamics to inform conservation: *Ecosphere*, v. 7, no. 3, article e01249, 15 p., Implications: Lek counts reliably estimate changes in GRSG populations, and telemetry studies are useful for demographic monitoring. In combination, these two methods can be used to measure life-cycle dynamics. Results suggest that GRSG females can exploit varying environmental conditions and may respond to management actions, whereas nest survival is highly variable and more affected by natural environmental variation. Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement; Lek count and telemetry studies Significance: Improved methodology for populaion management

Improved Habitat Mapping and Assessment Author: Fregman et al. Year: 2016 Title: Male greater sage-grouse detectability on leks: *Journal of Wildlife Management*, v. 80, no. 2, p. 266-274. Implications: Conducting sightability surveys to establish correction factors is recommended to avoid underestimation of regional GRSG abundance, particularly if vegetation and snow cover vary among leks. Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique improvement; lek counts Significance: Sightability estimates are key to estimating population density or abundance from count data. Comments: Improves lek counting, outdates previous methods and anything that relied on previous standards

Improved Habitat Mapping and Assessment Author: Fregman et al. Year: 2017 Title: Male greater sage-grouse movements among leks: *Journal of Wildlife Management*, v. 81, no. 3, p. 498-508. Implications: The reported frequency of crossing between leks is higher than in previous estimates. As such, movements between leks may explain a substantial amount of variability in annual lek counts, reducing the ability of lek count data to accurately depict GRSG population abundance or trends. Lek counts done earlier in the spring are less likely than those done later (at peak attendance) to reflect population abundance, particularly in areas where male GRSG move to higher elevations as snowpack melts. Conducting lek counts during peak attendance and avoiding counts during days with precipitation, particularly at higher elevations, is recommended. Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique improvement; lek counts Significance: Timing of lek counts is important to maximizing sighting of males at leks.

Improved Habitat Mapping and Assessment Author: Shyvers et al. Year: 2018 Title: Dual-frame lek surveys for estimating greater sage-grouse populations: *Journal of Wildlife Management*, v. 82, no. 8, p. 1689-1700. Implications: Study in northwestern Colorado. Authors report that, "We estimated that annual lek surveys captured an average of 45-74% of active leks and 43-78% of lekking males each year. Our results suggest that many active leks remain unknown and annual counts fail to account for a substantial, but variable, proportion of the number of active leks and lekking males in the population in any given year. Managers need to recognize this potential source of bias in lek-count data and, if possible, account for it in trend analyses and management efforts." Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement; lek counts Significance: Important for estimating population density and trends in low density populations. Comments: Data used by CPW and BLM for RMP development for NW Colorado is obviously biased.

Improved Habitat Mapping and Assessment Author: Coates et al. Year: 2019 Title: Estimating sightability of Greater Sage-grouse at leks using an aerial infrared system and N-mixture models. *Wildlife Biology*,

2019: wlb.00552, p. 1-11. Implications: The authors suggest that ground-based lek surveys are likely to result in population estimates about 14% lower than true values, especially in areas with high sagebrush cover. Using aerial integrated infrared imaging system surveys resulted in greater sightability rates, however using repeated morning ground-based surveys or generalized correction values provided by the authors could improve GRSG population estimates derived from ground-based lek counts. Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement; lek counts Significance: New method for estimating lek attendance and therefore, population trends.

Improved Habitat Mapping and Assessment Author: Fregmen et al. Year: 2019 Title: Weather conditions and date influence male sage grouse attendance rates at leks: IBIS, v. 161, no. 1, p. 35-49. Implications: Considering potential biases of attendance, detection can improve the performance of lek counts as indices of population abundance. Attendance here was strongly influenced by precipitation, consistent with other studies and supporting lek-count protocols that discourage counts during rain. Slight negative effects of wind observed here also support avoiding counts during high winds. Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement; lek counts Significance: Don't count sage grouse in the rain.

Improved Habitat Mapping and Assessment Author: O'Donnell et al. Year: 2019 Title: Designing multi-scale hierarchical monitoring frameworks for wildlife to support management: a sage-grouse case study: Ecosphere, v. 10, no. 9, p. 1-34. Implications: The ability to cluster GRSG leks into nested, biologically meaningful lek clusters may aid researchers and managers in producing population trend estimates at different spatial scales and help them determine drivers of trends across scales. This information will be important for developing effective management actions. Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement; population trends Significance: Additional research required for evaluation for implementation

Improved Habitat Mapping and Assessment Author: Wann et al. Year: 2019 Title: Assessing lek attendance of male greater sage-grouse using fine-resolution gps data-implications for population monitoring of lek mating grouse: Population Ecology, v. 61, no. 2, p. 183-197., <https://doi.org/10.1002/1438-390X.1019>. Implications: Lek-switching occurred at a higher rate than previously thought. Therefore, the authors recommended that surveys of leks within 4 km of each other should be conducted on the same morning to reduce the chance of double counting males. Date-corrected daily lek counts using attendance probability can reliably estimate population sizes, allowing more leks to be monitored less frequently. Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement; lek counts Significance: Potentially resolves issue with males moving between multiple leks by counting simultaneously.

Ramey et al. (2018) reported that regional climatic variation, as indexed by the Pacific Decadal Oscillation (PDO), was an important positive predictor of density changes at both the local and population level, particularly in the most recent part of the time series when lek count data were of higher quality.

In essence, the local and population-level effects should be quantified by the relative change in abundance of sage grouse after controlling for intrinsic factors such as density-dependence and extrinsic factors such as climatic variation (Coates et al. 2018; Ramey et al. 2018). As described below, these methods include analysis of lek counts based on stage-based population dynamic models. The sage grouse abundance should be based on lek counts (Walsh et al. 2004) as this data is relatively inexpensive

and non-intrusive to collect, has been collected historically via ground-based visual surveys for several decades in many areas and provides an index of population abundance (Monroe et al. 2016). In particular, the counts of male sage grouse should be corrected for sightability (Fremgen et al. 2016; Coates et al. 2019), seasonality (Wann et al. 2019) and where possible time of day to provide an estimate of the absolute male attendance at each lek in each year. Lek counts from ground based visual surveys can be supplemented by more extensive aerial infrared surveys (Gillette et al. 2013), provided they are also corrected for sightability (Coates et al. 2019).

The change in abundance due to human activity should be quantified in terms of the change in male lek attendance relative to what the attendance would have been in the absence of the activity. In order to estimate this term it is not enough to simply compare the lek attendance before the activity to the lek attendance after the activity. This is because lek attendance in sage grouse like other tetraonids (Kvasnes et al. 2010) undergoes large oscillations driven by density-dependence (i.e. population density feedbacks affect population growth rate) and regional climatic variation (i.e. inter-annual and multi-decadal variation in large-scale regional weather patterns) (Ramey et al. 2018). In other words, we must be able to account for these two naturally interacting processes in any analysis of human influences. Without accounting for these, the result could be an activity with a negative impact appearing neutral or even beneficial if it was undertaken while the population was recovering from lowered densities due to suboptimal climatic conditions. Likewise, a downturn may be entirely due to natural processes, rather than the activity in question (e.g. a low ebb in the Wyoming sage grouse can be expected as part of a population cycle, based almost entirely on the natural processes).

In addition to accounting for temporal dependencies due to population fluctuations, the statistical models also need to account for spatial dependencies in the response of individual leks. In particular the effect of an activity is expected to decay by distance while reductions at one lek could lead to decreases or increases at neighbouring leks depending on whether depensation (i.e. decrease in local population density or number due to the loss of breeding adults) or compensation (i.e. displacement of breeding sage grouse to nearby, undisturbed leks) is occurring. The extent to which these mechanisms are operating and how best to model them remains an open question. However, this is an important question to answer because it is central to quantifying, the extent to which a locally-observed decrease in sage grouse density in a project area may, or may not be, contributing to an overall decrease in the carrying capacity of the larger, surrounding population, or the cumulative effects of multiple projects and activities on a population. In other words, the question of "how much is too much" development, relative to a desirable population threshold.

Depending on the scale, the most promising method(s) include statistical analyses that can either use other leks that are outside the zone of influence as controls and/or explicitly model density-dependence, climatic variation and other extrinsic factors (Ramey et al. 2018). Ideally they would do both. The resultant effect size should be expressed as the estimated n-fold change due to the activity with 95% confidence/credible intervals (Bradford et al. 2005). As described below, explicit models should be stage-based population dynamics models.

Excluding new primary, secondary, or high-activity roads within 1.9 miles of leks, and excluding all new road construction or location within 0.6 miles of leks (with no exceptions, waivers, or modifications)

The downward lek trends and population declines are worrisome; while sage-grouse are a cyclical species, the current downward trajectory is an anomaly.

Despite our extensive analysis and comments on the proposed changes in the 2019 RMPAs in regard to lek buffers, the DSEISs persist in maintaining the inadequate protections of the previous plans. We refer BLM to our previous comments - and extensive scientific evidence provided in literature - on this issue.

There have been a number of scientific studies demonstrating that lek buffers greater than the 0.25-mile lek buffers (e.g. authorized in the 2018 Idaho EIS for IHMA and GHMA, and also greater than the 0.6-mile buffers authorized for PHMA and SFA in the Idaho plan), are necessary to maintain current sage-grouse populations in the face of industrial development. No scientific study has ever recommended a lek buffer of 0.25 mile as an adequate conservation measure. The DSEISs don't provide any new or justifiable rationale for having weakened these standards in the FEIS or for rejecting the recommendations of an interagency team of sage-grouse experts from state and federal agencies who performed a comprehensive review of the scientific literature and recommended a 4-mile lek buffer for siting industrial development in sage-grouse habitat (National Technical Team 2011), a prescription in greater accord with the science.

### **S-3.3.17 Livestock Grazing Management**

BLM fails to consider new science showing harms to sage-grouse habitat from livestock grazing and fails to consider that even under the more-restrictive 2015 Plans, few changes to livestock grazing to address sage-grouse needs have occurred. BLM is treating addressing harms to sage-grouse from livestock grazing as a paper exercise instead of taking the substantive actions needed to protect the species' habitat. BLM's failure to address grazing by implementing the 2015 Plans only confirms that those Plans do not go far enough to protect sage-grouse and the 2019 Plans and SDEISs only repeat and exacerbate this error. New scientific studies more definitively link the presence of livestock grazing with cheatgrass. Time-series data and results in Williamson et al. (2019) indicate that grazing corresponds with increased cheatgrass occurrence and prevalence regardless of variation in climate, topography, or community composition, and provide no support for the notion that contemporary grazing regimes or grazing in conjunction with fire can suppress cheatgrass. None of the BLM's DSEISs incorporate or interpret this potential impact of livestock grazing on sage- grouse habitat.

The BLM has indicated in its scoping materials for the planned grazing regulations revision that it intends to make significant changes in how NEPA will be applied to grazing authorizations. According to the documents provided, the BLM will be seeking to eliminate the requirement for notice, comment, protest, and appeal on a substantial number of authorizations. These might include permits for trailing and crossing of livestock and temporary permits for "targeted grazing," supposedly to reduce fuel loads and wildfire risk. Targeted grazing authorizations are likely to include livestock infrastructure including fencing, water tanks and wells all of which can have significant negative impacts to sage-grouse in addition the impacts of the grazing itself which is likely to segment habitat and create barriers to sage-grouse migration, breeding, nesting and brood rearing. The BLM must address the impacts of targeted grazing on sage-grouse and discuss how any new categorical exclusions proposed in the grazing regulations revision might impact sage-grouse habitat.

the revisions to MD LG 16 omit including into the alphabetical items in MD LG 16 the clarification made in the DSEIS relative to its reliance upon the COT and NTT Reports in Appendix S-1. Specifically, Appendix S-1 allows revision of livestock management direction "to incorporate key components of the Governor's sage grouse plan into BLM Management Direction (MD)" so as to include: (a) removing the threshold and response requirement during livestock permit renewal; and (b) reiterating that grazing is



guided by the C.F.R. 4100 Regulations. See DSEIS, Appendix S-1, at page APP-S-1-18. We support this approach, though the DSEIS erroneously fails to apply that approach in its revision of MD LG 16 and of MD LG 17 by not explicitly speaking to remove the threshold and response requirement during livestock permit renewal.

Grazing Author: Monroe et al. Year: 2017 Title: Patterns in greater sage-grouse population dynamics correspond with public grazing records at broad scales: *Ecological Applications*, v. 27, no. 4, p. 1096-1107, Implications: Modified from USGS Annotated Bibliographies (2018, 2019) or from each paper: High levels of grazing in this study represent intensities near maximum allowable levels defined by the Bureau of Land Management. Study findings did not suggest that reducing these grazing levels would benefit GRSB populations, but rather that grazing may have both positive and negative effects on GRSB, depending on timing and intensity. Study results suggest that broad-scale analyses are important to capture the range of responses that wildlife can have to land-use and livestock management. These findings could also help guide sustainable livestock management decisions, such as delaying high-level grazing until after peak vegetation productivity, in similar habitats. Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement; grazing management Significance: Prioritization of management actions to improve grazing in GRSB habitat.

Grazing Author: Cutting et al. Year: 2019 Title: Maladaptive nest-site selection by a sagebrush dependent species in a grazing-modified landscape: *Journal of Environmental Management*, v. 236, no. Epub 2019, p. 622-630 Implications: Modified from USGS Annotated Bibliographies (2018, 2019) or from each paper: These findings suggest that certain sagebrush habitats may function as ecological traps, whereas others may be undervalued, especially in an actively grazed setting. Additional fencing in these locations may lower GRSB nest survival rates. Author Highlights, " Nest survival in preferred sagebrush type was one-fourth the rate in type avoided. Nest survival was four times higher when placed >100 m away from nearest fence. Timing of graze could best achieve herbaceous requirements for successful nesting. Fence modifications along with prioritization of sagebrush type are discussed." Issue: Grazing; mitigation Significance: Recommendations to avoid ecological traps in areas subject to grazing

Grazing Author: Runge et al. Year: 2019 Title: Unintended habitat loss on private land from grazing restrictions on public rangelands: *Journal of Applied Ecology*, v. 56, no. 1, p. 52-62. Implications: Modified from USGS Annotated Bibliographies (2018, 2019) or from each paper: Restricting grazing on public lands could result in increased GRSB habitat loss on private land over the next 30 years. It is important to consider the connections between public land policy and private land use change. Policies that balance the need to conserve habitat on public lands with economic needs of ranchers are promising. Supersedes NTT: Yes Supersedes COT: Yes Issue: Grazing management Comments: Unintended consequences

Grazing Author: Taylor et al. Year: 2019 Title: Economic impact of sage grouse management on livestock grazing in the Western United States: *Western Economics Forum*, v. 17, no. 1, p. 98-114. Implications: Modified from USGS Annotated Bibliographies (2018, 2019) or from each paper: Reducing or eliminating livestock grazing on federally protected lands recognized as GRSB habitat would create negative economic impacts on both a ranch-scale and regional-scale, and may create increased economic burdens for rural communities in western states. Issue: Grazing

In addition, the DSEISs inexplicably fail to consider closure of sage-grouse allotments upon receipt of voluntarily waived grazing permits. This action was identified within one of the alternatives in each of the

2015 plans, but not carried forward into the 2018 analyses or 2019 decisions. The interest in and need for grazing permit retirement has only grown since the earlier plans, but none of the DSEISs consider the action.

Our previous comments and protests have discussed the inadequacy of current rangeland health assessments to ensure the protection and restoration of sage-grouse habitat. The BLM, as a central component of the grazing regulations revision, appears to be advocating for moving from site-specific assessments of rangeland health on a 10-year timeline to larger scale assessments at the watershed or even RMP level which may only occur every 30 years or more. The BLM, therefore, must include in its current analysis a discussion about how any changes to scale and timeframe for rangeland health assessments will impact sage-grouse habitat management and the responsiveness of agency land managers to adjust grazing practices when standards are not met.

### **S-3.3.18 Withdrawal Recommendation and SFAs (Sagebrush Focal Areas)**

Lack of consultation and coordination with state and local partners is a failure that plagued the 2015 land use plan development process throughout. As a result, the U.S. District Court for the District of Nevada held that BLM and USFS violated NEPA by failing to prepare a supplemental EIS to examine the SFA designations and allow for public comment. This failure underscores the process by which the overly restrictive 2015 plans were developed and the shortcomings that could have been avoided had the agencies deferred to state plans for Greater Sage Grouse conservation.

The Idaho District Court characterized the elimination of SFAs and "downgrading" these areas to Priority Habitat Management Areas (PHMAs) as a reduction in protection for the Greater Sage Grouse, and that in removing the SFAs, the final EISs for the revised plans "failed to identify any changes on the ground - or in the science - since the COT Report that had explained the need for the SFAs and designated those areas or the highest protection from energy development and other surface disturbance."<sup>13</sup> Here again the Court ignored the fundamental change that had occurred - the rescission of the discretionary 10-million-acre mineral withdrawal that the SFA designation was created to support in the first place. <sup>13</sup> *Western Watersheds Project et al v. Schneider et al*. Case No. CV-00083-BLM, 2019, at 11. (D. Idaho Oct. 16, 2019).

The lack of basis for the withdrawal, and the contrived SFA designation designed to support it, was fully demonstrated by the BLM's own conclusion that mining impacted less than 0.1 percent of the Sage Grouse population.<sup>14</sup> The DEIS explained that SFAs duplicate many protections already in place in PHMAs and do not provide appreciable benefit to the Greater Sage Grouse, including addressing the primary threats of wildfire and invasive species.<sup>15</sup> As discovered during the NEPA process commenced to facilitate the withdrawals, the purported threat to the Greater Sage Grouse as dictated by the FWS was infinitesimal compared to the overall acreage proposed to be withdrawn. The BLM DEIS noted: "The total amount of mining related disturbance in Sagebrush habitat under the No Action Alternative [no withdrawal] would be 9,554 acres . . . , or approximately one-tenth of 1 percent of the total withdrawn area."<sup>16</sup> (Emphasis added.) Indeed, the difference in acres that could be disturbed over 20 years between no withdrawal and a withdrawal of approximately 10 million acres was a mere 6,934 acres. Due to the compelling evidence related to the relatively small footprint of anticipated and foreseeable mining activities, on October 11, 2017, BLM allowed the two-year segregation period to expire by operation of law and cancelled the proposed SFA withdrawal.<sup>17</sup> The shortcomings of the SFA designation and lek buffers included in the 2015 land use plans and grounded in the NTT and COT

reports are well documented in the administrative record, and the Idaho District court erred in finding that deviation from these mechanisms constituted a reduction in Greater Sage Grouse protection without adequate review. 14 Sagebrush Focal Areas Withdrawal Environmental Impact Statement, Idaho, Montana, Oregon, and Wyoming (Dec. 2016) at 4-71. 15 Id. 16 Id. 17 82 Fed. Reg. 195, Oct. 11, 2017 at 47248.

Gold deposits like Gravel Creek (worth a gross \$3 billion and growing) and Doby George are extremely rare, costly, and difficult to find; the odds of finding another similarly promising deposit elsewhere are extremely remote. Although the withdrawal was cancelled as unnecessary (which was appropriate) the segregation of these lands effective September 24, 2015 created a significant cloud of uncertainty on the project and continued development and had a chilling effect on Western's ability to continue raising necessary funds for its development. This is yet another reason why the No Action alternative should not be adopted and the BLM should consider this effect on WEX and similarly-situated mining companies with valid existing rights in the DSEIS and should consider clarifying and confirming that such analysis must occur prior to any proposed withdrawal (based on existing law and regulations to avoid such harm in the future) in the future. WEX strongly supports and urges the BLM to adopt the provisions in the Management Alignment Alternative that eliminate the SFAs, remove any reference to any potential withdrawal of lands from mineral entry and reject in totality the No Action Alternative the adoption of which would not comport with the law.

the proposal for a potential mineral withdrawal included in the 2015 GSG LUPA was just that and not a foregone conclusion that it would be completed. As WEX argued to the Nevada District Court, we believe it was a legal shortcoming that the 2015 LUPA SEIS did not include a mineral potential report before proposing the withdrawal in the SEIS of 10 million acres of land (and was improper segmentation of the necessary NEPA processes). Once the proper NEPA analysis including the mineral potential in the area and a proper socioeconomic analysis of the impacts of such a withdrawal, the decision was clear: "the proposal to withdraw 10 million acres was unreasonable in light of the data that showed that mining affected less than 0.1 percent of Greater Sage-Grouse-occupied range." See DSEIS, Sec. 4.5.2, p.4-42 (quoting the BLM's Notice of Cancellation of Withdrawal Application and Withdrawal Proposal).

**B. The Cancellation Of The Proposed SFA Withdrawal Necessitates Removal Of The SFA Designations**  
As previously mentioned, part of the additional management package that accompanied the designations of SFAs was the recommendation to withdraw approximately ten million acres from operation of the Mining Law. The recommendation to withdraw in the 2015 Amendments was put into action upon the issuance of the RODs/LUPAs. See 80 Fed. Reg. 57,635 (Sept. 24, 2015) (notifying the public of the proposed withdrawal of BLM and Forest Service lands identified as SFAs in Idaho, Montana, Nevada, Oregon, Utah, and Wyoming). This notice also began the two- year segregation period, which prohibited entry and location on those lands. When the 2016 DEIS for the proposed withdrawal was released, it was clear the withdrawal of approximately ten million acres was not necessary to protect the greater sage-grouse or its habitat. For instance, even if no withdrawal occurred only 9,554 acres of the approximately ten million acres proposed for withdrawal could be disturbed by mining over a 20-year period. DEIS at vii, 4-87 ("The total amount of mining related disturbance in sagebrush habitat under the No Action Alternative [i.e., no withdrawal] would be 9,554 acres ..., or approximately one-tenth of 1% of the total withdrawal area." (emphasis added)). In fact, the difference in acres that could be disturbed over 20 years between no withdrawal and the withdrawal of approximately ten million acres was only 6,934 acres

Although the SFAs and the lek buffers constituted substantial changes to the proposed action, no supplemental EIS was prepared to analyze them and the public was not provided an opportunity to offer input on their use as guiding elements of the 2015 land use plans. As a result, the 2015 plans did not reflect the best scientific information available to and used by the states that are home to the Greater Sage Grouse. Comments included in the SFA EIS Scoping Report and critiques by Western governors raised serious questions regarding the scientific integrity of the SFAs and their usefulness in the stated objective of Greater Sage Grouse conservation. Commenters also noted that portions of the SFAs were not suitable as Greater Sage Grouse habitat and that certain areas included within the designation are uninhabitable by the species due to past wildfire and lack of sagebrush ecosystems, facts which would have been obvious if BLM adequately assessed these lands on the ground in concert with state and local partners. Lack of consultation and coordination with state and local partners is

a failure that plagued the 2015 land use plan development process throughout. As a result, the U.S. District Court for the District of Nevada held that BLM and USFS violated NEPA by failing to prepare a supplemental EIS to examine the SFA designations and allow for public comment. This failure underscores the process by which the overly restrictive 2015 plans were developed and the shortcomings that could have been avoided had the agencies deferred to state plans for Greater Sage Grouse conservation. In addition to the procedural and scientific flaws of the SFA designation, SFAs were principally designed to support a 10-million-acre withdrawal of lands from location or entry under the General Mining Law of 1872 that was unjustified and which has since been rescinded. The Idaho District Court characterized the elimination of SFAs and "downgrading" these areas to Priority Habitat Management Areas (PHMAs) as a reduction in protection for the Greater Sage Grouse, and that in removing the SFAs, the final EISs for the revised plans "failed to identify any changes on the ground - or in the science - since the COT Report that had explained the need for the SFAs and designated those areas or the highest protection from energy development and other surface disturbance."<sup>13</sup> Here again the Court ignored the fundamental change that had occurred - the rescission of the discretionary 10-million-acre mineral withdrawal that the SFA designation was created to support in the first place.

The lack of basis for the withdrawal, and the contrived SFA designation designed to support it, was fully demonstrated by the BLM's own conclusion that mining impacted less than 0.1 percent of the Sage Grouse population.<sup>14</sup> The DEIS explained that SFAs duplicate many protections already in place in PHMAs and do not provide appreciable benefit to the Greater Sage Grouse, including addressing the primary threats of wildfire and invasive species.<sup>15</sup> As discovered during the NEPA process commenced to facilitate the withdrawals, the purported threat to the Greater Sage Grouse as dictated by the FWS was infinitesimal compared to the overall acreage proposed to be withdrawn. The BLM DEIS noted: "The total amount of mining related disturbance in Sagebrush habitat under the No Action Alternative [no withdrawal] would be 9,554 acres . . . , or approximately one-tenth of 1 percent of the total withdrawn area."<sup>16</sup> (Emphasis added.) Indeed, the difference in acres that could be disturbed over 20 years between no withdrawal and a withdrawal of approximately 10 million acres was a mere 6,934 acres. Due to the compelling evidence related to the relatively small footprint of anticipated and foreseeable mining activities, on October 11, 2017, BLM allowed the two-year segregation period to expire by operation of law and cancelled the proposed SFA withdrawal.<sup>17</sup> The shortcomings of the SFA designation and lek buffers included in the 2015 land use plans and grounded in the NTT and COT reports are well

documented in the administrative record, and the Idaho District court erred in finding that deviation from these mechanisms constituted a reduction in Greater Sage Grouse protection without adequate review.

### **S-3.3.19 Mitigation**

BLM must evaluate the impacts of not requiring compensatory mitigation and alternatives to address those impacts. To the extent BLM still considers removing the compensatory mitigation requirement and will rely on voluntary actions by operators and enforcing state requirements, the agency must consider the impacts of that change. Removing the compensatory mitigation requirement is a textbook example of a significant change that necessitates supplemental NEPA. 40 C.F.R. § 1502.9(c). Despite BLM's attempts to ignore the likely consequences, the loss of required mitigation that is enforced by BLM means that there is no consistent assurance mitigation will occur. The resulting loss of habitat must be analyzed, especially in light of the loss of population and habitat described above and in Exhibit 4 that will compound these effects. BLM must consider alternatives that will address these increased threats to sage-grouse, such as increasing reliable protections from activities that damage habitat through measures like increasing protections for lands open to leasing. See, 40 C.F.R. §1502.14. BLM must conduct compliant supplemental NEPA to address the major effects of no longer requiring compensatory mitigation.

The State will work with the BLM to recommend, when appropriate, compensatory mitigation actions that create, restore, and/or protect functional habitat or habitat corridors to offset the impacts of unavoidable permanent disturbance to sage-grouse habitat. Generally, the State will recommend for every one acre of functional sage-grouse habitat permanently disturbed by project proponents, four acres of functional habitats or corridors created, restored, and/or preserved, as identified in the amended Utah Administrative Rule R634-3. Utah's compensatory mitigation ratio accounts for direct and indirect impacts that may result from permanent disturbance, differences in habitat quality, and uncertainty related to mitigation success. This ratio reduces project costs by simplifying the analysis of these factors, while also ensuring effective conservation outcomes.

The compensatory mitigation strategy contained in the Draft SEIS and the proposal to work with the State, the BLM, and the project proponents to analyze applicant-proposed or state-imposed compensatory mitigation to offset residual impacts is the best way to balance development and conservation in alignment with the State management plan.

I feel that compensatory mitigation is inadequate to mitigate for loss of Greater Sage-Grouse. You cannot compensate for the potential loss of a species like the Greater sage-Grouse monetarily. The new plan could significantly reduce the GRSG's chances of survival, and this is a tragic loss for all of us and future generations of Americans. I believe that the BLM has a Public Trust obligation to protect the Greater Sage-Grouse for all of us.

Supplemental Draft EISs should have been issued as required by NEPA when the BLM decided to eliminate mandatory compensatory mitigation. We are opposed to the elimination of mandatory compensatory mitigation, as mandatory compensatory mitigation is a cornerstone component contributing to the 2015 FWS determination that the GRSG is "not warranted" for listing under the ESA. An attempt to offer compensatory mitigation to development proponents as voluntary and regulated only under relevant State authorities both undermines the monumental collaborative

conservation effort that resulted in the 2015 FWS determination and is likely to impose disadvantageous range wide impacts to GRSG. Further, the 2020 DSEIS does not appear to provide any substantive justification for eliminating mandatory compensatory mitigation.

Elimination of mandatory compensatory mitigation is likely to impose disadvantageous range wide impacts to GRSG by transferring compensatory mitigation authority to the State level. Consistent with the myriad of issues associated with the range wide cumulative impact analysis, "the states have no legal authority to dictate how federal lands are to be managed or to impose conditions like compensatory mitigation on federal land users" (DSEIS, C-172). Further pointing out the need for Federal involvement with regards to compensatory mitigation. GRSG occupy a geographic range composed of several states and they rely on habitat connectivity to persist. Imposing a state-led and therefore piecemeal compensatory mitigation policy is sure to result in range wide fragmentation of conservation efforts because compensatory mitigation policies are variable in degree of protection between states and also subject to change over time as political factors shift and economic reality varies. The 2020 DSEIS failed to consider this concept and as a result, includes no substantive impact analysis or conclusionary justification regarding the potential benefits or detriments that such a policy modification may impose on GRSG across its range.

In addition, Section 4.13 Page 5-54 of the 2020 DSEIS presents language that suggests that there is not yet enough data regarding compensatory mitigation to provide a science-based assessment of compensatory mitigation "effectiveness or degree of benefit": "While the BLM has more than 90 RMPs, 9 strategies, and 45 agreements in active use that contain or address compensatory mitigation, the BLM has identified only limited implementation of compensatory mitigation consistent with the 2015 Greater Sage-Grouse Plans. Using data gathered in 2017, the BLM identified 13 Greater Sage-Grouse projects across 5 BLM states with a mandatory compensatory mitigation component or net gain standard implemented between October 2008 and June 2017.

In many cases, it is still too soon in the implementation of these compensatory mitigation actions to measure the effectiveness or degree of benefit each action provides." As the BLM acknowledges that the best available science shows that more information is required to provide a defensible conclusion regarding compensatory mitigation actions, it would be both irresponsible and unethical to modify the current compensatory mitigation policy until sufficient data has been collected to inform a formal NEPA analysis of the matter.

We maintain that BLM's position that it cannot require compensatory mitigation is unlawful. BLM's analysis is inaccurate and BLM has ample authority to require compensatory mitigation under FLPMA. First, IM 2019-018 relies on a Solicitor Memorandum M-37046, "Withdrawal of M-37039, "The Bureau of Land Management's Authority to Address Impacts of its Land Use Authorizations Through Mitigation." (June 30, 2017). Solicitor Memorandum M-37046 withdraws a previous Solicitor Opinion that confirmed BLM's authority to address land use authorizations through mitigation but did not conclude BLM did not have the subject authority; rather, it "attempted to answer an abstract question." In actuality, the direction in both IM 2019- 018 and the 2019 Amendments are arbitrary and capricious, and in violation of law.

To the extent BLM still considers removing the compensatory mitigation requirement and will rely on voluntary actions by operators and enforcing state requirements, the agency must consider the impacts of that change. Removing the compensatory mitigation requirement is a textbook example of a

significant change that necessitates supplemental NEPA. 40 C.F.R. § 1502.9(c). Despite BLM's attempts to ignore the likely consequences, the loss of required mitigation that is enforced by BLM means that there is no consistent assurance mitigation will occur. The resulting loss of habitat must be analyzed, especially in light of the loss of population and habitat described above and in Exhibit 4 that will compound these effects. BLM must consider alternatives that will address these increased threats to sage-grouse, such as increasing reliable protections from activities that damage habitat through measures like increasing protections for lands open to leasing. See, 40 C.F.R. §1502.14. BLM must conduct compliant supplemental NEPA to address the major effects of no longer requiring compensatory mitigation. Recommendations: If BLM intends to proceed with a Supplemental EIS process, then BLM must address the flaws in the NEPA analysis connected with the 2019 Amendments, including the failures to fully assess the impacts of the changes to the 2015 Sage-grouse Plans and to consider an actual range of alternatives.

The revisions to the compensatory mitigation guidelines will likely prove to limit maintenance and/or restoration of habitat for sage-grouse. The new guidelines rely on existing policies to “fill in the blanks” when the BLM can’t. Reliance on mitigation banking may be the most economical solution for “achieving reparations”, but it is certainly not the most effective environmentally. Mitigation banking improves areas outside the area of concern, leaving the management area degraded. The no net loss concept embedded in conservation banking has proven to be, at best, modestly successful (Bull, J.W., Suttle, K.B., Gordon, A., Sing, N.J., Milner-Gulland, E.J., 2013). The implementation of a biodiversity offset by conservation banking walks a fine line between conservation and economic growth. Mitigation banking cannot be exchanged like currency to compensate for damages to the environment. Greater sage-grouse already suffer habitat loss due to climate change, suffering habitat loss due to anthropogenic, permitted events cannot be corrected indirectly by a mitigation banking system. Mitigation strategies concerning greater sage-grouse habitat areas should primarily be focused on ecological outcomes that directly correspond with greater sage-grouse populations. The mitigation banking strategy proposed by this plan is not sufficient in promoting the longevity of the species. The purpose of this EIS is to promote the conservation of sagebrush habitat for the greater sage-grouse species and to prevent the extinction of said species. The threshold of efficacy that conservation banking would have on a species bordering extinction is too small

Because priority habitat management areas (PHMAs) are discrete areas located throughout the range of sage-grouse, large-scale conservation strategies being pursued by BLM depend not only on maintaining suitable habitats within each priority area, but also in large part on maintaining the range-wide connectivity of populations among these priority areas. The loss of connectivity among sage-grouse population strongholds due to human-related or naturally occurring disturbance is a strong predictor of long-term population declines. BLM has a critical role in managing connectivity and other broad-scale issues. Yet, the agency's recent push towards project-specific evaluations and the elimination of its avoidance options (e.g., prioritization of oil and gas leasing outside of important sage-grouse habitats has been discontinued in practice by BLM [Instructional Memorandum 2018-026]) suggest that the BLM has no viable landscape-scale approach to managing impacts to sage-grouse or its habitats. Furthermore, the BLM currently is not requiring compensatory mitigation and has deferred to state plans. While deference to state authority and mitigation programs may work, we remain skeptical as to not only compliance but also effectiveness for achieving a no-net-loss standard. In other words, the lack of a broad perspective on management, restoration and mitigation will likely lead to continued degradation and loss of sage-grouse habitats as development in these habitats proceeds. The SEISs offer no analyses

related to mitigation or restoration, which represents a fatal flaw in BLM's analysis of new information and circumstances.

IM No. 2018-093, however, does authorize voluntary compensatory mitigation by a project proponent. To ensure that compensatory mitigation is voluntary, the IM cautions that BLM must not explicitly or implicitly suggest that a project approval is contingent upon proposing a "voluntary" compensatory mitigation component, or that doing so would reverse or avoid an adverse finding. Importantly, the IM notes that "[e]ven if FLPMA authorizes the use of compensatory mitigation, it does not require project proponents to implement compensatory mitigation."<sup>21</sup> Accordingly, the IM concludes that BLM will not mandate compensatory mitigation as a condition of project authorizations unless required by law. As such, compensatory mitigation, the foundation for the "net conservation gain" standard applied across the 2015 plans adopted across the range of BLM GRSG planning area, has been renounced. Similarly, On July 30, 2018 FWS formally withdrew two significant mitigation policies of the previous Administration. The first policy, issued on Nov. 6, 2017, related to ESA compensatory mitigation policy, was withdrawn by the Endangered and Threatened Wildlife and Plants; Endangered Species Act Compensatory Mitigation Policy.<sup>19</sup> The second, a Nov. 2016 policy, guided the Service on recommendations to mitigate impacts of activity of land and water developments on fish, wildlife, plants, and their habitats, was withdrawn by the FWS Mitigation Policy. The withdrawn policies were eleventh hour pronouncements by the previous Administration that imposed a net conservation gain standard as applied to matters particularly focused under the ESA, in addition to throughout FWS-related activities.

As justification for the policy revocation, FWS acknowledged serious concern that requiring mitigation for impacts unrelated to a project proponent's actions as potentially implicating federal constitutional concerns related to the Fifth amendment prohibition on takings.<sup>20</sup> Additionally, according to FWS, "[t]he ESA requires neither 'net conservation benefit' nor 'no net loss,' and [FWS] has not previously required a 'net benefit' nor 'no net loss' while implementing the ESA.<sup>21</sup> FWS recognized that, threaded between Sections 7 and 10 of ESA, "the applicant may do something less than fully minimize and mitigate the impacts of the take where to do more would not be practicable," while still advancing Section 7(a)(2) obligation to ensure that any federal activity is not likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of habitat.<sup>22</sup> Accordingly, there is no legal basis to impose a "net conservation gain" standard in any way in the land use planning process. The Idaho District Court ignored BLM's IM and its well-founded interpretation of the law that FLPMA does not support mandatory compensatory mitigation and the Service's withdrawal of the policies on which net conservation gain was based. It is inappropriate to conclude that the rescission of unauthorized standards can serve as a degradation in species protection under the law. By extension, it is also inappropriate to conclude that the BLM violated NEPA by failing to analyze the impacts of not implementing standards it was not authorize to implement in the first place, and which had since been rescinded.

Another difference between past and current oil and gas development, particularly in the Pinedale Planning Area, has been the implementation of extensive mitigation measures designed to reduce overall impacts to sage grouse and enhance their habitat. Mitigation measures became notable with development of the Pinedale Anticline starting in 2000 (BLM 2000, 2008a) followed by the Jonah Drilling Infill Project (BLM 2006b) and culminating in the Pinedale Resource Management Plan Record of Decision (BLM 2008b). These measures have resulted in 183,608 ha of sage grouse habitat in the Pinedale Planning Area set aside by the BLM as unavailable to oil and gas development (BLM 2008b)



The DSEIS fails to include a fresh hard look at the removal of compensatory mitigation requirements from the 2019 plans. In order to properly assess the effects of this change from the 2015 plans, the BLM must first disclose an estimated amount of money set aside for compensatory mitigation over the life of the plan, then make educated estimates of how that money might be used to improve habitats (types of projects, acreage estimates), and then take a hard look at the population increases that such projects might be expected to generate, based on monitoring data from past compensatory mitigation projects. Please provide the information on projects funded, type of compensatory mitigation project funded, acres treated, and sage-grouse population gains (or losses) that occurred subsequent to compensatory mitigation projects in which BLM is a participating, funding, or observing member. Rangeland figures for acres treated and dollars spent in the past do not inform a "hard look" at the magnitude of the impacts of making compensatory mitigation optional (or leaving it up to the state, which amounts to the same thing since federal agencies cannot compel state agencies to require compensatory mitigation). BLM asserts again in the DSEIS that vegetation treatments will offset the loss of federally-mandated compensatory mitigation, without acknowledging the past failures of such treatments or BLM's own acknowledgement that sage-grouse "did not benefit from, or were negatively affected by, prescribed fire and mechanical sagebrush removal." Oregon FEIS at 3-4. BLM also falsely claims that state mitigation programs will offset the loss of federal requirements. However, most states do not require compensatory mitigation at the same standard as the previous federal requirements. Many state programs are voluntary, narrow the circumstances in which the requirement applies, or reduce the standard by which habitat loss must be mitigated. Indeed, not all states even have their plans finalized yet. The BLM fails to disclose the potential implementation of these state mitigation plans but simultaneously fails to safeguard public lands by creating its own.

BLM also failed to acknowledge that it simultaneously amended its plans to allow operators to waive other restrictions-such as lek buffers and disturbance caps-if they "offset" impacts through state compensatory mitigation programs. See, e.g., UT 56 (MA-SSS-3B); CO 174-75 (NSO-2); ID 031; NVCA 215. As a result of these related changes, compensatory mitigation may actually facilitate habitat destruction under the 2019 Plan Amendments.

Instead of analyzing the impacts of compensatory mitigation removal, BLM punts analysis of effects to sage grouse habitats and populations in favor of vague assertions that "mitigation would continue." See, e.g. Idaho DSEIS at 4-28, Northwest Colorado DSEIS at 4-45. The closest the agency comes to a 'hard look' at mitigation effectiveness is the following: Anecdotally, the existing conservation credit systems, banks, and exchanges designed to offset impacts to Greater Sage-Grouse or its habitat have had mixed success. The BLM is aware of three mitigation banks (one commercial bank agreement in Wyoming and two single-user bank agreements with mining companies in Nevada) and one exchange system in Colorado specific to Greater Sage-Grouse currently in operation. However, the BLM does not have access to data or information that would further assess the relative benefit provided by these systems.

Furthermore, "it is speculative to assume the impacts from voluntary compensatory mitigation at the planning level without knowing the frequency with which project proponents would offer voluntary actions. The applicability and overall effectiveness of voluntary actions cannot be fully assessed until the project level when the specific location, design and impacts are known." See, e.g. Idaho DSEIS at 4-31; Wyoming DSEIS at 4-99; Northwest Colorado DSEIS at 4-47. Thus, instead of taking the legally required hard look at impacts of changing compensatory mitigation requirements, the best the BLM can muster is an admission that they have no idea. NEPA requires at least an informed estimate.

The BLM jettisoned the compensatory mitigation promised in the 2015 plans under the policy that BLM would only consider compensatory mitigation as a component of compliance with state mitigation plans, programs or authority, or when offered voluntarily. See, e.g. Idaho DSEIS at 2-3, Colorado DSEIS at 2-9. But nowhere do the plans take a comprehensive look at what the states' plans, programs or authorities are, nor the likelihood of voluntary mitigation by developers. Without this information, it is impossible to assess the overall mitigation in sage- grouse range, underscoring how destructive and uncertain these plans are.

The Idaho and Wyoming DSEISs do admit that the difference between "Net Conservation Gain" to "No Net Loss" has not been defined by BLM. Idaho DSEIS at 4-27; Wyoming DSEIS at 4-100. This is a very basic requirement of NEPA. See, e.g. *Or. Natural Desert Ass'n v. Rose*, 921 F.3d 1185, 1189-90 (9th Cir. 2019) (Interior Board of Land Appeals acted arbitrarily and capriciously where it changed the definition of a "route" in a travel plan, but failed to explain "what led it to alter its earlier decision or why the new approach was more consistent with the text of the Steens Act"). Moreover, BLM's DSEISs are asserting that this change is not significant: "The BLM is not proposing any action that would preclude proponents from offering compensatory mitigation; it is clarifying the BLM's reliance on voluntary compensatory mitigation consistent with federal law." But there is a significant difference between requiring "net gain" and making any gains voluntary in terms of the "adequacy" of a regulatory mechanism. See, e.g., Idaho DSEIS at 4-34; Wyoming DSEIS at 4-102. One ensures that there is offset for habitat impacts and the other doesn't. The difference is greater than or equal to every developed/degraded acre. The forthcoming SEISs must admit and analyze this truth.

### **S-3.3.20 Modifying Waivers, Exceptions, and Modifications of Fluid Minerals**

Removing waivers, modifications, and exceptions from habitat protection standards, so that they will be rigorously and dependably applied;

#### **S-3.3.21 Prioritization of Mineral Leasing**

Finally, BLM has not evaluated the impacts of its increased leasing and permitting in sage- grouse habitat. Since 2017 and this administration's abandonment of prioritizing leasing and development outside habitat, there has been a radical increase in leasing and permitting in sage- grouse habitat. See, *Oil and Gas Development on Federal Lands and Sage-Grouse Habitats* October 2015 to March 2019.<sup>5</sup> Since the beginning of this administration, more than 4 million acres of grouse habitat have been put up for lease and approximately 2.5 million acres have sold. As the court noted, "there is no indication" that the administration will proceed at any slower pace. *WWP v. Schneider*, 417 F.Supp.3d at 1334. Given this trend, BLM can and should evaluate the impact of ongoing leasing and permitting in habitat. <sup>5</sup> available at [https://www.audubon.org/sites/default/files/greater\\_sage-grouse\\_habitat\\_reportfinal\\_20190725.pdf](https://www.audubon.org/sites/default/files/greater_sage-grouse_habitat_reportfinal_20190725.pdf)

If the hard look at the impacts of eliminating mandatory compensatory mitigation was lacking in the FEIS, the impacts analysis on the impact of prioritizing oil and gas leasing and development outside sage grouse PHMA was completely absent. The DSEISs repeat these mistakes. Under the Obama administration, approximately 5 million acres of oil and gas leases nominated by the industry inside PHMA were pulled from the auction block under this provision. How many acres of PHMA would be abandoned as a result of leasing inside PHMA over the life of the plan amendment? To what degree would sage-grouse populations decrease as a result of leasing inside PHMA? The FEIS and the DSEIS are silent. Furthermore, BLM does not even attempt to address the elimination of prioritizing project-level

development outside PHMA, which is required under the 2015 ARMPAs but eliminated under the 2018/2020 EISs.

### **S-3.3.22 Greater Sage-Grouse**

Analysis of GRSG population impacts from predation and hunting must be included and considered in the development of the final land use plans. The Counties urge BLM to coordinate with local governments and the U.S. Department of Agriculture (USDA) Animal and Plant Health Inspection Service on these issues. In addition, any land use plans must recognize that GRSG populations respond to changes in weather. Wet or dry years are the biggest influence on populations apart from predation and hunting.

Support the development of recovery plans within 18 months of listing that includes clear objectives to reach for delisting to occur; for species already listed support the development of a recovery plan within 18 months of this document.

Require the petition of the immediate delisting of a species when population or recovery plan objectives have been met.

Support the development of local solutions (e.g., habitat management plans, conservation plans or conservation plans with assurances) to keep a species from being listed under ESA or as species of concern/species of special concern.

Include consideration of management activities on federal lands as part of the local solutions to keep a species from being listed under ESA or as a species of concern/species of special concern.

Additionally, BLM has just completed a Programmatic EIS for Fuel Breaks in the Great Basin that will guide BLM to "construct and maintain a system of up to 11,000 miles of strategically placed fuel breaks to control wildfires within a 223 million-acre area in portions of California, Idaho, Nevada, Oregon, Utah and Washington."<sup>4</sup> As discussed in Exhibit 4, in the opinion of sage-grouse experts, this approach will require destruction of sage-grouse habitat and could result in substantial loss and/or degradation of sagebrush habitat. BLM must consider this new information when evaluating likely impacts to sage-grouse from the 2019 Amendments. <sup>4</sup> <https://www.blm.gov/press-release/interior-improves-strategies-combat-wildfires-across-223-million-acres-great-basin>

3.D. Mineral Withdrawal Simplot supports the continued exclusion of SFAs as stated in the DSEIS and the prior withdrawal of the application to designate approximately 10 million acres of public and National Forest system lands located within Idaho, Montana, Nevada, Oregon, Utah, and Wyoming as SFAs. In its 2010 finding, the FWS identified a number of specific threats to GRSG in the Great Basin Region; including the widespread present and potential impacts of wildfire, the loss of native habitat to invasive species, and conifer encroachment. Mining was not identified as a primary threat. This is further supported in the DSEIS at page ES-1: "The BLM determined that the proposal to withdraw these areas was unreasonable in light of the data that showed that mining affected less than 0.1 percent of Greater Sage-Grouse across its occupied range." The DSEIS further clarifies at page 4-76 that: "In its 2016 SFA Withdrawal EIS, the BLM quantified the possible adverse effects from locatable mineral exploration and mining on the approximately 10 million acres of SFAs proposed for withdrawal, finding that they would be limited to approximately 9,000 acres rangewide of surface disturbance over 20 years, with approximately 0.58 percent of Greater Sage-Grouse male birds possibly affected per year. The other

action alternatives evaluated in the 2016 SFA Withdrawal Draft EIS similarly demonstrated negligible benefit of the proposed withdrawal to Greater Sage-Grouse and its habitat."

Because the initial purpose behind the entire BLM Sage-Grouse RMP amendment process was conditioned upon the principal goal "to avoid a potential listing" under the Endangered Species Act (ESA), the 2020 Final SEIS needs to cure the failure of the 2015 and 2019 NEPA processes by evaluating the environmental impacts of the alternatives with respect to Sage-Grouse population status and trends. The Final SEIS needs to evaluate current population status and trends and needs to disclose how the various alternatives would impact future population trends which directly affect the purported risk that Greater Sage-Grouse may face "potential listing" under the ESA.

Sage-grouse population declines and habitat loss represent significant new environmental information that bears on the management actions established in the 2015 and 2019 sage-grouse RMP amendments. BLM must address these circumstances through supplements to the EISs used to inform those RMPs as prescribed in 40 CFR 1502.9(c)(1)(ii) of the National Environmental Policy Act (NEPA). Specifically, the regulations require agencies to: "prepare supplements to either draft or final environmental impact statements if there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts." The Draft SEISs released February 11, 2020 do not reflect the reality of these new circumstances and provide no scientific justification for the majority of BLM management decisions given the current situation. Accordingly, BLM must expand the scope of these SEISs to address this new information and set of circumstances facing sage-grouse and sagebrush habitat.

The documents do present treatment and restoration acres, which are important, but there is essentially no mention of acres lost and how treated/restored acres might have offset that loss. Empirical metrics for habitat loss and acres of habitat that were mitigated and those that were not are fundamental to any meaningful "hard look" at environmental consequences. It is impossible to know exactly how much habitat has been gained or lost and what the trajectory for habitat and sage-grouse populations are without the full suite of metrics.

Furthermore, there is no mention as to whether habitat treatments and restoration were effective and, critically important, when or even if sage -grouse will ever occupy them, let alone successfully reproduce effectively in the future - the true metric of successful restoration. The temporal lag in treatment effectiveness should be accounted for in analyses and discussed in detail.

Idaho DSEIS at ES-1, Wyoming DSEIS at 1-1; Northwest Colorado DSEIS at ES-1. It is also informative to note that during the course of this period of state management of sage-grouse, the once-commonplace large flocks were eliminated and the birds became so rare, and their habitats so badly impacted by human activities, that the U.S. Fish and Wildlife Service found the species 'warranted, but precluded' for listing under the Endangered Species Act. And population declines have continued, as noted elsewhere in these comments.

BLM did not consider these increased habitat protections in the 2019 plan amendments, which this SEIS incorporates by reference without significant changes. See, e.g., Idaho DSEIS at 2-17; Northwest Colorado DSEIS at ES-3. This SEIS does nothing to remedy the failure of BLM to make needed improvements in sage-grouse habitat protections,

Dr Braun is understandably alarmed; he has been concerned about the population trajectory of sage-grouse for decades. His analysis of recent trends merits a hard look and some real consideration. In his professional opinion: These recent trends add urgency...to ensure that remaining sage-grouse populations and their habitats are protected from further degradation and fragmentation, to the maximum extent possible. Natural events - including drought and wildfires - are largely beyond federal land managers' control, but will continue and likely be exacerbated by climate change into the foreseeable future. It is thus essential that human actions - over which we do have control - not be allowed to contribute further to sage-grouse declines. Braun Declaration at 12, Attachment M. Dr. Braun's insights here and in the rest of his declaration (attached at M) should be part of BLM's hard look at the proposed action and incorporated in future iterations of the SEISs.

BLM's various arguments that NTT should not apply because it does not factor in other policy considerations or BLM guidance is nothing more than a list of excuses. For instance, the existence of other BLM authorities governing designation of areas as unsuitable for coal mining does not preclude BLM from adopting NTT's suggestion that PHMAs should be designated as unsuitable, it only provides a process for doing so. *Id.* at F-3; See also 43 U.S.C. § 1712(a) ("Land use plans shall be developed for the public lands regardless of whether such lands previously have been classified, withdrawn, set aside, or otherwise designated for one or more uses."). And, BLM's emphasis on applying the "least restrictive constraints" on oil and gas leasing to achieve the resource protection objective ignores that constraints in State plans like Wyoming's and others are not achieving the resource protection objective of preserving sage-grouse, which is why stronger protections are necessary to prevent further population declines. *Id.* BLM's suggestion in responding to the NTT Report that policy considerations should dictate which sage-grouse protections are applied - not science - is the overarching reason why BLM's land-use plans are failing to adopt adequate protections for the sage-grouse.

### **S-3.3.23 Non-Greater-Sage-Grouse**

Global climate change has been caused largely by emissions from burning fossil fuels, so a public agency like the BLM can be on the forefront of reducing production of fossil fuels by denying oil and gas drilling leases. Livestock production also makes a major contribution to greenhouse gas emissions, with cattle being the largest portion (GAO 2006), so there is another opportunity to reduce GHG emissions. With climate's current unpredictability, all sage grouse habitat should be managed in a manner that addresses the possibility of a drought. Another example of the interconnection of all these factors is that climate change is causing wildfires to be hotter, windier, drier, and larger (Neary, 2019). BLM must include these stresses when considering the protection of public lands for its native biota.

Grazing Author: Smith et al. Year: 2018 Title: Effects of livestock grazing on nesting sage-grouse in central Montana: *Journal of Wildlife Management*, v. 82, no. 7, p. 1503-1515. Implications: Modified from USGS Annotated Bibliographies (2018, 2019) or from each paper: Female sage grouse selected nest sites based on sagebrush cover and distance from roads, and nest failure was driven by precipitation. Data regarding livestock was inconclusive. The authors suggest that conservation of shrub cover and preventing additional habitat fragmentation by roads would benefit GRS nesting habitat and nest success. Issue: Roads; livestock grazing Significance: Seasonal effects of weather on nest success; roads fragment habitat

The Utah DSEIS similarly relies mainly on the 2015 plan for its environmental baseline (UT DSEIS at 3-4 to 3-5), and provides only the same information on sage-grouse seasonal habitat and anthropogenic

disturbance as the 2018 FEIS. UT DSEIS at 3-8 to 3-10. Wyoming's DSEIS relies on 2015 conditions as a baseline for most impacts, but updates fire through 2017. Wyoming DSEIS at 3-6. This lack of information overlooks the changes on the ground in the interim and fails to provide the requisite hard look at the impacts of the proposed action; each of the forthcoming SEISs should update the baseline against which they compare the impacts of the various alternatives.

Dr. Jack Connelly provided this assessment of sagebrush and vegetation manipulations efforts in 2019: 1. Further, sagebrush and vegetation manipulation efforts - including mechanized methods using aerator with seeding, harrow or chain with seeding, drill seeding, hand planting plugs, and aerial seeding - are generally harmful to sage-grouse populations, with only weak evidence (at best) suggesting some treatments might be helpful. 2. Despite this scientific information, the 2019 Idaho and Wyoming Plan Amendments permit prescribed burns and other sagebrush treatments as acceptable vegetation management practices in sage-grouse habitat. The 2019 Idaho Plan Amendments specifically allows these sagebrush manipulation and eradication methods, noting "[w]here desirable perennial bunchgrasses or forbs are deficient in existing sagebrush stands, use appropriate mechanical, aerial, or other techniques to reestablish them (e.g., a Lawson aerator with seeding, harrow or chain with seeding, drill seeding, hand planting plugs, aerial seeding, or other appropriate techniques)." 3. BLM approved these vegetation treatment methods despite the fact that little evidence demonstrates benefits of mechanical treatments of sagebrush for sage-grouse. In my expert judgment, these practices will only continue to destroy or degrade sage-grouse habitat, with limited or no benefit to sage-grouse populations and habitat. 4. The adverse impacts flowing from BLM's vegetation treatment projects will be further exacerbated by BLM's plans for fuels management activities. According to the 2019 Idaho and Wyoming Plan Amendments, fuels management activities - including construction of firebreaks; prescribed fire; and mechanical, chemical and biological fuels management - are specifically exempted from any disturbance limitations in sage-grouse habitat. In fact, these fuels management treatments may occur within the lek buffers in key sage grouse habitat. 5. BLM's fuels treatment activities are inconsistent with the best available scientific information on sage-grouse habitat and populations, and BLM provides no sound scientific support for its actions. Instead, BLM outright misrepresents leading research on this topic... in an apparent effort to manufacture a scintilla of scientific evidence supporting its activities. For example, in the 2019 Wyoming Plan Amendments, BLM justifies a robust vegetation treatment regime by claiming that a desired condition for sage-grouse breeding and nesting habitat includes 5-25% sagebrush canopy cover... 6. Absent these gross mischaracterizations, BLM lacks any scientific evidence supporting its decision allowing 5% sagebrush cover as a "desired condition," and compelling evidence indicates 5% canopy coverage is far too low for sage-grouse nesting habitat. In my judgment, managing sagebrush landscapes for a 5% sagebrush cover will harm sage- grouse populations and habitat, under the guise of restoring or improving both. 7. Finally, in the 2019 Idaho Plan Amendments BLM reasonably limited mechanized anthropogenic disturbance in nesting habitat during the nesting season and in wintering habitat during the winter season. But BLM then emasculates the importance of this reasonable and necessary conservation measure by exempting fuels and vegetation treatments "specifically designed to improve or protect Greater Sage-Grouse habitat." BLM cites no scientific authority supporting this exemption, and in my experience any activity that disturbs nesting hens is likely to result in nest abandonment and/or increased nest predation. Thus, BLM must prohibit all mechanized anthropogenic disturbance in breeding and winter habitat during the breeding and winter season. (Internal citations omitted, entire declaration provided in Attachment N). Dr. Connelly's expert opinion on the matter should be heeded, and the forthcoming iterations of the SEIS should explain why BLM believes that its use of scientifically inadequate protections in sage-grouse habitat is sufficient.

**S-3.3.24 Fluid Minerals**

The Center for Biological Diversity's Michael Saul also provided a revealing declaration in the preliminary injunction briefings. Attachment P. For example, Mr. Saul reviewed impacts in sage-grouse habitat that occurred between the 2019 Plan Amendments (in March) and his declaration (in June). He determined that BLM approved at least 5 oil and gas projects with 51 Applications to Drill (APDs) in Utah, 21 projects and 44 APDs in Wyoming, 1 project with 31 wells for oil and gas development in Colorado, and mining and destructive infrastructure projects in Idaho and Nevada. These were just some of the known impacts in designated sage-grouse habitat of the 2019 DSEISs prior to their injunction. The BLM must analyze and disclose the effects of these projects as the current environmental baseline and take a hard look at their impacts on sage-grouse habitat. The SEISs must discuss these and the remaining data in Mr. Saul's declaration in forthcoming iterations in order to redress their failings under NEPA.

In 2019, a new report (Gardner, et al. 2019) analyzed oil and gas development on federal lands and sage-grouse habitats from the implementation of the 2015 plans through March 2019. This research demonstrated that drilling in designated sage-grouse habitat increased by 2.98 times between February 2017 and March 2019 compared with the October 2015 to January 2017 time frame. This was a rate higher than drilling on all public lands across all states during the same periods. This demonstrates that oil and gas development has shifted towards PHMA in all states since January 2017, following the removal of SFA restrictions and prioritizations due to BLM's abrupt cancellation of SFA designations. The data from Gardner, et al., should be analyzed and disclosed in any forthcoming environmental analyses completed pursuant to the BLM's plans.

BLM continues to omit numerous large-scale oil and gas developments in key sage- grouse habitat from its DSEIS analyses. These activities are occurring throughout the range of sage-grouse, including lands beyond those covered by the 2019 plan revisions. This includes all the states where sage-grouse presently occur or could recover, and across the land tenure. The failure to consider the current conditions and likely foreseeable future actions on Forest Service lands, state lands, and private lands is a serious omission. As discussed above, these impacts are significant, merit a hard look, and a discussion of each plan's impacts should include the cumulative effects of all the activities in the range.

The Nevada/CA and Wyoming DSEISs do not specify dates in their oil and gas Past leasing sections but do include a June 2018 lease sale in their Future Pending sections, so their leasing acreages are nearly two years out of date.<sup>26</sup> BLM in both states routinely offers thousands of acres of designated sage-grouse habitat management areas during oil and gas lease auctions. The NW Colorado DSEIS provides no oil and gas leasing acreage information in its cumulative effects summary at all, nor did BLM include this information in the NW Colorado 2018 FEIS. See NW Colorado DSEIS at App-2-1 to App-2-2, 2018 FEIS at App-2-1 to App-2-2. BLM did not even provide oil and gas leasing acreage in the 2015 NW Colorado FEIS, instead merely stating: "The BLM routinely offers land parcels for competitive oil and gas leasing to allow exploration and development of oil and gas resources for public sale. Continued leasing is necessary for oil and gas companies to seek new areas for oil and gas production or to develop previously inaccessible/uneconomical reserves." NW Colorado 2015 FEIS at 5-5. The continued omission of oil and gas leasing acreages demonstrates that BLM has never considered the actual quantity and physical location of oil and gas leasing in Colorado sage-grouse habitat as part of the cumulative effects NEPA analysis the agency was required to conduct for the NW Colorado grouse plans. <sup>26</sup> See Wyoming DSEIS at D-14

### S-3.3.25 Fire and Fuels

Wildland fires also continue to be an immediate and pervasive threat to sage-grouse, especially throughout western portions of the species' range. As discussed in our protest and in the attached sage-grouse scientists' letter, data indicates that fires on BLM lands are increasing, with 3 million acres burned in Idaho, Nevada and Utah. Once again, BLM should take into account the substantial losses of habitat and likely continued losses due to fire in evaluating the impacts of proposed changes. Additionally, BLM has just completed a Programmatic EIS for Fuel Breaks in the Great Basin that will guide BLM to "construct and maintain a system of up to 11,000 miles of strategically placed fuel breaks to control wildfires within a 223 million-acre area in portions of California, Idaho, Nevada, Oregon, Utah and Washington."<sup>4</sup> As discussed in Exhibit 4, in the opinion of sage-grouse experts, this approach will require destruction of sage-grouse habitat and could result in substantial loss and/or degradation of sagebrush habitat. BLM must consider this new information when evaluating likely impacts to sage-grouse from the 2019 Amendments. <sup>4</sup> <https://www.blm.gov/press-release/interior-improves-strategies-combat-wildfires-across-223-million-acres-great-basin>

Mitigation-Wildfire Author: Stenvoorden et al. Year: 2019 Title: The potential importance of unburned islands as refugia for the persistence of wildlife species in fire-prone ecosystems: Ecology and Evolution, DOI: 10.1002/ece3.5432. Implications: Population dynamics of leks located within fire perimeters are negatively impacted. Unburned islands play an important role as refugia, and maintaining unburned vegetation may be vital for the success of GRSg populations after a wildfire event. The recovery of natural vegetation postfire may also benefit GRSg populations. Supersedes NTT: Yes Supersedes COT: Yes Issue: Wildfire; fire suppression Significance: Prioritization of fire suppression to maintain unburned refugia and enhance post-wildfire restoration

Mitigation-Wildfire Author: Shinneman et al. Year: 2019 Title: The ecological uncertainty of wildfire fuel breaks: examples from the sagebrush steppe: Frontiers in Ecology and Environment, v. 17, no. 5, p. 279-289. Implications: To produce a robust cost-benefit analysis regarding fuel break effectiveness and ecological impacts, more research is needed. The authors suggest several specific research questions that could provide useful information to policy and decision-makers "to disentangle their ecological costs and benefits." Supersedes NTT: Yes Supersedes COT: Yes Issue: wildfire; fuel breaks Significance: Ecological cost benefit analysis of fuel breaks Comments: Ecological cost benefit analysis of fuel breaks

Mitigation-Wildfire Author: Foster et al. Year: 2019 Title: Greater sage-grouse vital rates after wildfire: Journal of Wildlife Management, v. 83, no. 1, p. 121-134. Implications: GRSg continued to use areas within the wildlife perimeter, but had lower nest and adult survival rates compared to other reported values for GRSg in the Great Basin. Apparent decreased nest site fidelity within the fire perimeter may relate to increased habitat fragmentation. Increased nest survival in the second year may relate to increased vegetation in the burned area. Findings suggest that fire suppression activities to maintain intact habitat patches may be a critical tool for managers of GRSg populations and habitat in landscapes prone to fire. Supersedes NTT: Yes Supersedes COT: Yes Issue: Wildfire; mitigation strategy Significance: Improved Wildfire firefighting strategy to benefit GRSg.

Mitigation-Wildfire Author: Shinneman et al. Year: 2018 Title: A conservation paradox in the great basin-altering sagebrush landscapes with fuel breaks to reduce habitat loss from wildfire: US Geological Survey, v. XXX, no. XXX, p. XXX\*Open File Report. Implications: The authors conclude that more research is needed to document fuel break effectiveness, effects on plant communities, and effect on



wildlife. However, they suggest that installing fuel breaks in an effort to protect intact sagebrush habitat may provide long-term benefits to sagebrush-associated species, even if these benefits come at a cost to some individual species at local scales. Supersedes NTT: Yes Supersedes COT: Yes Issue: Wildfire; fuel breaks Significance: Supports the reality that historical habitat was not a vast sagebrush sea, but rather an ecosystem made up of sagebrush islands. Comments: Suggest additional review due to significance as a mitigation measure.

Mitigation-Wildfire Author: Foster et al. Year: 2018 Title: Potential effects of GPS transmitters on greater sage-grouse survival in a post-fire landscape: *Wildlife Biology*, v. 2018, no. 1, p. 1-5. Implications: Survival rates measured in this post-fire study were much lower than observed in other studies in the Great Basin, though they did eventually increase to comparable levels (after the conclusion of this study). If the slightly lower survival rates of birds with GPS versus VHF devices observed in this study are confirmed (5% lower survival), they are of concern because of the increasing use of GPS units and the potential for effects of this magnitude to affect population growth rates. Findings from this study were limited by small sample sizes. Supersedes NTT: Yes Supersedes COT: Yes Issue: Post-fire study; GPS transmitters affect survival Significance: GPS transmitters reduce survival compared to VHF transmitters Comments: Authors appropriately recognize that the GPS may have biased the conclusions. As such, this study better informs future study designs

Mitigation-Wildfire Author: Ellsworth et al. Year: 2016 Title: Ecosystem resilience is evident 17 years after fire in Wyoming big sagebrush ecosystems: *Ecosphere*, v. 7, no. 12, article e01618, 12 p., <https://doi.org/10.1002/ecs2.1618>. Implications: Results demonstrate post-fire resilience of the xeric Wyoming big sagebrush system, possibly because of its high quality and presence of unburned patches within the fire perimeter. The conditions are representative of xeric Wyoming big sagebrush communities prior to the invasion of cheatgrass, where there were islands of sagebrush left after fire which helps the system recover from fire and provide habitat for GRS. Controlled burning of some xeric sagebrush systems that are in good condition and dominated by natives may have benefits for ecosystem heterogeneity and herbaceous cover. Authors conclude, "Our results illustrate that management of all habitat components, including natural disturbance and a mosaic of successional stages, is important for persistent resilience and that suppression of all fires in the sagebrush steppe may create long-term losses of heterogeneity in good condition Wyoming big sagebrush ecosystems." Supersedes NTT: Yes Supersedes COT: Yes Issue: Wildfire; mitigation strategy Significance: Selective use of prescribed fire

Mitigation-Wildfire Author: Coates et al. Year: 2016 Title: Wildfire, climate, and invasive grass interactions negatively impact an indicator species by reshaping sagebrush ecosystems: *Proceedings of the National Academy of Sciences of the United States of America*, v. 113, no. 45, p. 12745-12750. Implications: The authors describe, "Using three decades of sage-grouse population count, wildfire, and climate data within a modeling framework that allowed for variable postfire recovery of sagebrush, we provide quantitative evidence that links long-term declines of sage-grouse to chronic effects of wildfire. Projected declines may be slowed or halted by targeting fire suppression in remaining areas of intact sagebrush with high densities of breeding sage-grouse." Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement; targeted wildfire suppression Significance: Prioritization of fire suppression to minimize deleterious effects to GRS Comments: Important preplanning strategy to reduce threat of wildfire.

Mitigation-Wildfire Author: Davis and Crawford Year: 2015 Title: Case study-Short-term response of greater sage- grouse habitats to wildfire in mountain big sagebrush communities: Wildlife Society Bulletin, v. 39, no. 1, p. 129-137. Implications: The authors sought to identify the short-term (<11 year) response of GRSG nesting and brood-rearing habitats to wildfire. In mountain big sagebrush communities where sagebrush is abundant, the understory is composed of adequate native perennial grasses and forbs, and invasive annual grasses are limited, prescribed burning may be a useful tool for improving GRSG nesting and brood-rearing habitat. The application of fire treatments in less mesic sagebrush communities with fewer forbs may not produce the desired results, which emphasizes that management decisions need to be made in light of existing conditions and documented GRSG seasonal habitat needs. Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement; prescribed fire Significance: Selective use of prescribed fire to improve GRSG habitat. Comments: Supersedes NTT because fire treatments may benefit higher elevation mountain big sagebrush communities i.e. not a one-size-fits-all strategy.

Indeed, from 2016-2019 fires burned approximately 3 million acres of BLM administered lands in Idaho, Nevada and Utah alone, representing a 43% increase in annual acres burned on BLM lands in these states compared to the previous 4-year period (2012-15; data from the Great Basin Coordination Center). Also, the BLM estimates that more than 2 million acres of designated sage-grouse habitat management areas burned between 2015 and 2017 in Idaho, Nevada, Utah and Wyoming. Importantly, trends generated from 2004-2015 data suggest that wildfire rates are increasing, and the median annual area burned is projected to increase 5-11 times across several states in the range of sage-grouse over the next two decades. These trends coupled with other habitat losses from development (which remain poorly documented) and other perturbations simply cannot be ignored and must be addressed through these supplemental analyses.

Dr. Haak's analysis determined that "core areas in Wyoming, Idaho, and Nevada are particularly at risk, having experienced large wildfires and increasing threats from energy development in just over three years." Haak 2019 at 27, attached. In sum, the analysis found: Since there has been no overlap between lands impacted by wildfire and those now marked for oil and gas development, the impact from these two factors is additive. Range-wide nearly three million hectares (over 7,000,000 acres) of currently occupied habitat, including almost 1.6 million hectares (over 3,800,000 acres) of priority habitat, have had a change of status since adoption of the 2015 Plan. This represents 5% of the priority habitat as defined by the PACs. A significant loss in just three years. Haak at 29, Attachment O. This is exactly the type of analysis that BLM could have undertaken - but didn't - in the 2019 amendments in order to take a hard look at the current conditions and likely effects of its proposed action. The SEISs must discuss these and the remaining data in Dr. Haak's declaration and report on them in forthcoming iterations in order to redress their failings under NEPA.

### **S-3.3.26 Vegetation**

Improved Habitat Mapping and Assessment Author: Gibson et al. Year: 2016 Title: Evaluating vegetation effects on animal demographics-The role of plant phenology and sampling bias: Ecology and Evolution, v. 6, no. 11, p. 3621-3631. Implications: Statistical artifacts can confound interpretations of the importance of vegetation to GRSG nest survival. Researchers should consider the confounding effects of plant phenology when planning animal demography studies. The authors provide techniques for date corrections between hatching and nest-fate measurement. Supersedes NTT: Yes Issue: Technique refinement; nesting studies

Habitat Improvement Author: Lockyer et al. Year: 2015 Title: Nest-site selection and reproductive success of greater sage-grouse in a fire-affected habitat of northwestern Nevada: *Journal of Wildlife Management*, v. 79, no. 5, p. 785-797, Implications: Habitat management for all shrub species, rather than just sagebrush, may confer the greatest benefits to GRSG. Reproductive success of GRSG may be improved by maintaining perennial grasses and >40 percent shrub cover within 0.8 ha of nest sites. Cheatgrass control may also improve nest success. GRSG may benefit from postfire restoration that recovers shrubs and perennial grasses. Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement; habitat management Significance: Prioritization of management

Soil and soil biocrusts are the foundation of the sage steppe, providing many services to the plants which evolved with these crusts (Belnap 1994). The biocrusts are fragile, quickly broken under a cow hoof or tire, but when intact are more likely to exclude cheatgrass. Excluding livestock allows recovery (Zhang 2020, Ponzetti et al. 2007, Root et al. 2019, Reisner et al. 2013, Belnap et al., 1994). Soil disturbance increases cheatgrass which increases wildfire spread which increases cheatgrass. Limiting or removing causes of disturbance will allow soil and plants a chance to recover their original function.

Cheatgrass - All surface-disturbing activities tend to promote the spread of weeds (BLM 2005). In a 2006 Science review of dozens of published studies, the researchers observed that "native herbivores strongly suppressed, whereas exotic herbivores strongly enhanced, the relative abundance of exotic plants" (Parker et al. 2006). Cheatgrass is incompatible with or detrimental to all other renewable uses listed by FLPMA, uses such as "recreation, watershed, wildlife and fish, and natural scenic, scientific and historical values." 43 U.S.C. § 1702 (c). Yet by continuing grazing, drilling leases, treatments and other disturbances, the BLM insists on promoting cheatgrass, degrading sage steppe and habitat for sage grouse.

Since January 2017, BLM leased over 2.4 million acres and issued 3,570 drilling permits in sage-grouse habitat. Over decades, the activity under leases has actively removed and fragmented sage grouse habitat.

Habitat Improvement Author: Baxter et al. Year: 2017 Title: Baxter, J.J., Baxter, R.J., Dahlgren, D.K., and Larsen, R.T., 2017, Resource selection by greater sage-grouse reveals preference for mechanically-altered habitats: *Rangeland Ecology and Management*, v. 70, no. 4, p. 493-503. Implications: Dense patches of sagebrush were mechanically treated annually by using either a chain harrow or brushhog mower in treatment sites. An increase in forb cover after treatment was expected but not observed, potentially because of lower annual precipitation levels after treatment, competition with grasses, or a lag effect of treatment. A significant increase in use of habitat in and near (within 90 meters) treated mountain big sagebrush sites by brooding GRSG suggests that such treatments may be beneficial to GRSG. Issue: Technique refinement Significance: Habitat restoration Comments: Habitat improvement but Survival and recruitment were not assessed

Habitat Improvement Author: Carlisle et al. Year: 2018 Title: Nontarget effects on songbirds from habitat manipulation for greater sage-grouse: implications for the umbrella species concept: *Condor*, v. 120, no. 2, p. 439-455. Implications: The authors suggest that sagebrush mowing treatments intended to benefit GRSG, an ostensive umbrella species at a broad spatial scale, could have negative effects on co-occurring species at more localized scales, especially if mowing treatments are widespread. Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement Significance: Prioritization of management actions; Unintended consequences Comments: The NTT, COT, and LUPs completely fail to take into

account other species and can have negative impacts on other species at a local level. The one-size fits all, single species management approach has proven adverse effects to other species.

Other Mitigation Author: Wing and Messmer Year: 2016 Title: Impact of sagebrush nutrients and monoterpenes on greater sage-grouse vital rates: Human-Wildlife Interactions, v. 10, no. 2, p. 157-168. Implications: Study results confirmed the importance of black sagebrush as pre-nesting season forage and suggested that any forage selection related to monoterpenes may reflect some aspect of an individual monoterpene rather than the total concentration of all monoterpenes. Study results should be interpreted cautiously because of the small sample size, single year, and single study site. Supersedes NTT: Yes Supersedes COT: Yes Issue: black sagebrush; GRSG forage

Mitigation-Restoration of Habitat - Pinyon-Juniper removal Author: Davies and Bates Year: 2019 Title: Longer-term evaluation of sagebrush restoration after juniper control and herbaceous vegetation trade-offs: Rangeland Ecology & Management, v. 72, no. 2, p. 260-265. Implications: Following juniper control in dense stands that lack sagebrush, mountain big sagebrush re-establishment is likely to be accelerated by seeding, whereas herbaceous vegetation cover may be reduced. Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement; pinion-juniper removal and sagebrush restoration

Mitigation-Restoration of Habitat - Pinyon-Juniper removal Author: Reinhardt et al. Year: 2017 Title: The authors conclude that the optimization framework and models used in this study illustrate an approach, increasingly available to land managers, which can augment or complement standard expert-based approaches to planning and prioritization. Such approaches could reduce planning and implementation time for landscape-scale conifer removal treatments. Topics: broad-scale habitat characteristics, conifer expansion, new geospatial data, habitat restoration or reclamation Implications: Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement; conifer removal Significance: Prioritization of management Comments: Improved methodology

Mitigation-Restoration of Habitat - Pinyon-Juniper removal Author: Prochazka et al. Year: 2017 Title: Encounters with pinyon-juniper influence riskier movements in greater sage-grouse across the Great Basin: Rangeland Ecology and Management, v. 70, p. 39-49. Implications: The authors conclude that GRSG are negatively affected by pinyon-juniper encroachment because this habitat type stimulates faster, high-risk movements, such as flight, which likely attract visual predators. Further, the study quantifies age-specific GRSG mortality risk when individuals move through landscapes containing pinyon-juniper stands. Supersedes NTT: Yes Supersedes COT: Yes Issue: Pinion-juniper; predation risk Significance: Pinion-juniper; predation risk Comments: Cause and effect mechanism explaining predation risk

Mitigation-Restoration of Habitat - Pinyon-Juniper removal Author: Coates et al. Year: 2017 Title: Pinyon and juniper encroachment into sagebrush ecosystems impacts distribution and survival of greater sage-grouse: Rangeland Ecology and Management, v. 70, no. 1, p. 25-38. Implications: From the authors: "Collectively, these results provide clear evidence that local sage-grouse distributions and demographic rates are influenced by pinyon-juniper, especially in habitats with higher primary productivity but relatively low and seemingly benign tree cover. Such areas may function as ecological traps that convey attractive resources but adversely affect population vital rates. To increase sage-grouse survival, our model predictions support reducing actual pinyon-juniper cover as low as 1.5%, which is lower than the published target of 4.0%." Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement;

Improved standards for pinyon-juniper removal Significance: New threshold for pinyon-juniper removal provided greater benefits to GRSG

Mitigation-Restoration of Habitat - Pinyon-Juniper removal Author: Farzan et al. Year: 2015 Title: Western juniper management-Assessing strategies for improving greater sage-grouse habitat and rangeland productivity: Environmental Management, v. 56, no. 3, p. 675-683. Implications: The study showed that juniper removal can benefit both GRSG and cattle forage production, but the benefits depend on site characteristics and how sites were selected. Sites chosen to maximize forage did not substantially benefit GRSG. Sites chosen for GRSG habitat did benefit forage production, but larger habitat treatments had decreasing returns on investment. The benefits achieved for either goal were altered by agency coordination, budgetary constraints, and wildfire. Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement; pinyon-juniper removal Significance: Management can be prioritized to benefit GRSG habitat and cattle forage Comments: Management actions can have a dual purpose

Habitat Improvement Author: Ricca et al. Year: 2018 Title: A conservation planning tool for greater sage-grouse using indices of species distribution, resilience, and resistance: Ecological Applications, v. 28, no. 4, p. 878-896. Implications: The CPT could help resource managers evaluate potential costs and benefits of treatments in particular locations in order to facilitate restoration prioritization decisions across landscapes used by GRSG. Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement; habitat restoration Significance: Prioritization of management; new planning tool Comments: An improved planning tool. Also undermines the argument that habitats cannot be restored by recognizing the BLM prioritization process for restoring lands needs improvement. This tool can help with that.

Habitat Improvement Author: Gustafson et al. Year: 2018 Title: Using object-based image analysis to conduct high-resolution conifer extraction at regional spatial scales: International Journal of Applied Earth Observation and Geoinformation, v. 73, p. 148 - 155. Implications: The maps produced can help to inform land managers on where to target pinyon-juniper treatment in order to aid sagebrush restoration and GRSG conservation. Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement; habitat mapping; Pinyon-juniper treatment Significance: Habitat mapping; habitat restoration Comments: Potential technique for offset mitigation

Habitat Improvement Author: Gustafson et al. Year: 2018 Title: Using object-based image analysis to conduct high-resolution conifer extraction at regional spatial scales: International Journal of Applied Earth Observation and Geoinformation, v. 73, p. 148 - 155. Implications: The maps produced can help to inform land managers on where to target pinyon-juniper treatment in order to aid sagebrush restoration and GRSG conservation. Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement Significance: Prioritization of management actions; Unintended consequences Comments: The NTT, COT, and LUPs completely fail to take into account other species and can have negative impacts on other species at a local level. The one-size fits all, single species management approach has proven adverse effects to other species

The USFS has been providing the public with a monitoring report regarding the implementation of the 2015 ARMPAs and the extent to which it is affecting designated sage- grouse habitat on forest lands.<sup>12</sup> Table 5 in the 2019 report is particularly illustrative of rangewide conditions, but BLM's DSEISs do not contain any such tabulation of impacts an disturbance<sup>13</sup>(We note too that the Forest Service report

offsets habitat destruction with "restoration" projects that are unproven and potentially damaging. See "Vegetation Treatments," below). 12

[https://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/fseprd695213.pdf](https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd695213.pdf) 13 Surface disturbance is defined according to the RMPA's parameters, which does not include livestock disturbance (i.e. areas of livestock concentration, miles of fencing, water structures, etc.). We disagree with this definition of surface disturbance and recognize that USFS is underestimating the impacts of authorized activities.

In terms of taking a hard look at the impacts of vegetation treatment, the DSEIS adds basically no new analysis to the analyses underlying the 2015 ARMPAs. See Idaho DSEIS at 4-28; NV/CA DSEIS at 4-3 to 4-10; 4-40 to 4-46; Wyoming DSEIS at 4-92; UT DSEIS at 4-41 to 4-67;

Having tallied these acreage figures, the BLM has shown that it has identified areas "treated in recent years," theoretically for sage-grouse habitat enhancement. But where is the hard look at the results of these treatments? Did viable sagebrush habitats meeting minimum sage-grouse habitat requirements result, and if so over how many acres? Did disturbed areas with little or no habitat value for sage-grouse result, and if so, where, and over how many acres? Did cheatgrass infestations increase on lands "treated" for habitat enhancement (or other) purposes, and if so, over how many acres? How many of these vegetation projects have also been designed to create supplementary forage for livestock? The DSEIS is silent on these questions, but the BLM is obligated to analyze and disclose this information to the public.

For example, we are concerned that juniper-removal projects in sage-grouse habitat may result in expansion of cheatgrass (Evans and Young 1985, Bates et al. 2005). This is particularly concerning where such projects involve mature juniper woodlands with little sagebrush understory. BLM has failed to adequately analyze the differences in impacts of invasive species resulting from juniper removal in stands of different densities and ages. Based on our review of the science, juniper removal (using hand-cutting and jackpot burning) in areas where junipers are sparse and young and sagebrush-grass understory is healthy (without a large component of cheatgrass) does not result in severe cheatgrass expansion when the area is protected from livestock grazing for two-plus years post-treatment, whereas projects that do not meet these criteria pose major cheatgrass risks and are likely to result in the further degradation, rather than restoration, of sage-grouse habitats.

BLM is also developing new categorical exclusions for pinyon-juniper treatments in sage-grouse habitat, one of which will allow for the clearcutting of pinyon and juniper trees over large areas up to 10,000 acres. Because these projects will be conducted under a categorical exclusion, there is likely to be very little analysis of long-term impacts to sage-grouse as a result of the associated disturbance to such large landscapes, increased human presence, and the potential increase in invasive plants such as cheatgrass. The BLM must analyze the potentially large increase in the number of projects that will be conducted and consider the cumulative impacts of the expected number of projects across such a substantial portion of sage-grouse habitat. The analysis must include a hard look at the potential negative side effects of these projects (e.g. increased fire occurrence through the spread of cheatgrass; See Fusco et. al. 2019b) and how they will impact sage-grouse habitat and populations in the longer term.

### **S-3.3.27 Guidance and Policy**

Local governments are charged with protecting the health, safety and welfare of their citizens and serve as custodians of vital information including the cultural, social, economic and historical data necessary to

fully evaluate the effects of any proposed actions which must be considered in order to compile an accurate NEPA review. The Counties were therefore dismayed that the BLM did not involve said Counties in the development of this SEIS. As cooperating agencies, the Counties should be involved throughout the NEPA process, including the preparation of this SEIS which was made necessary thanks to the Winmill Decision. See 40 CFR § 1501.6 (regarding the involvement of cooperating agencies). BLM must thoroughly consider these plans and alternatives and coordinate with the Counties on the final land use plans.

All decisions to permanently close an area needs to be done only after a thorough public outreach process that includes engagement of all local government agencies affected. The same outreach and engagement should be required for the closure of any road or trail, primitive or otherwise, that has not been through a comprehensive travel management plan process.

Placing these multiple-use, foundation-level plans at the mercy of a single-policy agenda destroys their utility. Single purpose initiatives, such as sage-grouse conservation, should be pursued within the framework of existing resource management plans, rather than becoming the reason for their constant revision. In other words, policy initiatives should be subordinate to multiple-use management plans, rather than the plans existing at the mercy of each new policy initiative. The 2019 land use plans revisions sought to restore the planning process consistent with the multiple-use mandate, and discontinue the single-purpose planning model that defined the 2015 plans.

In addition to other resource values, FLPMA specifically directs BLM to manage public lands "in a manner that recognizes the Nation's need for domestic sources of minerals..." FLMPA Sec. 102(a)(12). Unfortunately, the multiple-use management objective and FLMPA's directive to manage lands in a manner that recognizes the Nation's need for minerals became an afterthought in the development of the 2015 land use plans as FWS continued to dictate management objectives for the stated purpose of Greater Sage Grouse conservation above all other land uses covered by the plans.

The failure to revise the plan amendments toward true conservation does not follow BLM's internal policies that mandate species protection. BLM Manual 6840 "provide[s] policy and guidance for the conservation of BLM special status species and the ecosystems upon which they depend on BLM-administered lands."3 Its objective for species that are not currently listed under the Endangered Species Act (ESA) is to "initiate proactive conservation measures that reduce or eliminate threats to Bureau sensitive species to minimize the likelihood of and need for listing of these species under the ESA." Id. The BLM's State Director (the signatory of this Amendment) has the additional responsibility of "[e]nsuring that when BLM engages in the planning process, land use plans and subsequent implementation-level plans identify appropriate outcomes, strategies, restoration opportunities, use restrictions, and management actions necessary to conserve and/or recover listed species, as well as provisions for the conservation of Bureau sensitive species," and "[e]nsuring that land use and implementation plans fully address appropriate conservation of BLM special status species." The BLM SSP requires the agency to take action to prevent listing. 3

[https://www.blm.gov/sites/blm.gov/files/uploads/mediacenter\\_blmpolicymanual6840.pdf](https://www.blm.gov/sites/blm.gov/files/uploads/mediacenter_blmpolicymanual6840.pdf)

### **S-3.3.28 Statutes and Regulations**

NEPA requires that agencies "prepare, circulate, and file a supplement to a statement in the same fashion (exclusive of scoping) as a draft and final statement unless alternative procedures are approved

by the Council." 40 CFR § 1502.9(c)(4). Although the Draft EISs that supported the 2019 Amendments were issued for a 90-day comment period, BLM only issued this Draft SEIS for 45 days. While BLM extended the comment period for an additional 45 days on the date that the original comment period expired, this last minute action does not evidence good faith compliance with NEPA's requirements. We also note that BLM failed to conduct scoping as part of this supplemental NEPA process. Although scoping is not absolutely required when completing supplemental analysis, a scoping period is commonly offered during supplemental NEPA, especially when such supplemental analysis was in response to a court order. See, 40 CFR § 1502.9(c)(4); Notice of Availability of the Draft Amendment to the Approved Resource Management Plan for the Miles City Field Office, Montana, and the Associated Supplemental Draft Environmental Impact Statement, 84 Fed. Reg. 22,516 (May 17, 2019); Notice of Availability for the Draft Supplemental Environmental Impact Statement and Potential Amendment for the Approved Resource Management Plan for the Buffalo Field Office, Wyoming, 84 Fed. Reg. 22,515 (May 17, 2019). The intent of scoping is to focus the analysis on significant issues and reasonable alternatives, to eliminate extraneous discussion, and to reduce the length of the EIS. By skipping this opportunity to solicit public input and influence the scope of supplemental analysis, BLM has further undermined this process.

The breadth of proposed regulatory changes currently being contemplated and finalized by the BLM demonstrate the absolute uncertainty of implementation of any aspect of the plans that is deferred to site-specific or future actions. Where BLM provides for management flexibility in implementation at the permitting or site-specific level, the SEISs must admit that the decision-making may be done outside of current levels and expectations of public participation and without in depth environmental analyses. The agency can't have it both ways: the ARMPAs can't rely on subsequent decision-making to implement the science and simultaneously be cutting the science out of subsequent decision-making.

No Notice and Comment on Eleventh-Hour Changes to the 2015 Plans In the last 60-90 days of the NEPA process on the 2015 Plans, DOI significantly altered their preferred alternative to include new regulatory measures relative to: GRSG "strongholds" or "focal areas"; the involvement of the USFWS and state wildlife agencies in granting waivers, modifications or exceptions to no surface occupancy areas ("NSOs"); so-called hard or soft triggers; and overall, a switch from managing lands to management of a species above all other considerations. The public, including the Counties, did not have an opportunity to review or comment on these significant eleventh-hour changes. Despite these significant flaws and issues, the agencies failed to revise the NW CO DEIS or the Reports. Given the importance federal law ascribes to the public's input with regard to rulemaking processes (see also 5 U.S.C. § 553, 40 C.F.R. § 1506.6, 40 C.F.R. § 1502.9(b); 40 CFR § 1503.1),<sup>18</sup> it is clear that the agency's failure not only to obtain public comments on the "eleventh hour" changes introduced in the 2015 BLM FEIS, but also to incorporate local guidance and input received throughout the 2015 Plans' NEPA process, has resulted in regulation and land management which both omits and overrides the public's input in violation of federal law. <sup>18</sup> See also, *Perez v. Mortg. Bankers Ass'n*, 135 S.Ct. 1199, 1203 (2015) ("An agency must consider and respond to significant comments received during the period for public comment.")

Caerus believes that any plan should recognize the Bureau of Land Management's ("BLM") statutory mandate to manage public lands to accomplish multiple-use and sustained yield and should also explicitly recognize the valid existing rights of leases acquired before the 2015 Plan was finalized.



Mentioned within the DEIS regarding FLPMA, Congress provided BLM with “discretion” and “authority” to manage public lands for multiple use and sustained yield. These terms need to be explained in detail further to define their purpose and state which direct authorities are able to be utilized in the multiple-use goal. Along with definitions, BLM contains “broad” responsibilities to manage public lands & resources similar to the Department of Interior (DOI) which has broad responsibilities to manage federal lands and resources.

Within ES.2, “By implementing these land use plan conservation measures and continuing to exercise its discretion to approve future project proposals under appropriate terms and conditions or deny them where appropriate, the BLM can adequately protect Greater Sage-Grouse and its habitat while meeting its general obligation under FLPMA to manage public lands under principles of multiple use and sustained yield”. Again, the terms of discretion and using words such as general does not portray the urgency and specific determination behind the BLM’s missions and goals.

FLPMA specifically directs BLM to manage public lands “in a manner that recognizes the Nation’s need for domestic sources of minerals...” FLMPA Sec. 102(a)(12). Unfortunately, the multiple-use management objective and FLMPA’s directive to manage lands in a manner that recognizes the Nation’s need for minerals became an afterthought in the development of the 2015 land use plans as FWS continued to dictate management objectives for the stated purpose of Greater Sage Grouse conservation above all other land uses covered by the plans. Placing these multiple-use, foundation-level plans at the mercy of a single-policy agenda destroys their utility. Single purpose initiatives, such as sage-grouse conservation, should be pursued within the framework of existing resource management plans, rather than becoming the reason for their constant revision. In other words, policy initiatives should be subordinate to multiple-use management plans, rather than the plans existing at the mercy of each new policy initiative. The 2019 land use plans revisions sought to restore the planning process consistent with the multiple-use mandate, and discontinue the single-purpose planning model that defined the 2015 plans.

the Idaho District Court found that discarding the “net conservation gain” standard and mandatory compensatory mitigation used in the 2015 plans, and which was central to FWS’s not warranted decisions, eliminated protections without justification.<sup>18</sup> Despite this opinion, it has been well established that the net conservation gain standard and compelling mandatory compensatory mitigation is beyond the authority of the BLM under FLMPA. On July 24, 2018, BLM provided specific policy direction on the issue of compensatory mitigation through issuance of Instruction Memorandum (IM) No. 2018-093. Specifically, BLM directed that compensatory mitigation cannot be required as a condition for the use of public lands nor can BLM accept any monetary payment to mitigate the impacts of any proposed action. In all instances, BLM must refrain from authorizing any activity that causes unnecessary or undue degradation (UUD), pursuant to Section 302 of FLPMA. <sup>18</sup> *Western Watersheds Project et al v. Schneider et al*. Case No. CV-00083-BLM, 2019, at 12, 24. (D. Idaho Oct. 16, 2019).

FWS recognized that, threaded between Sections 7 and 10 of ESA, “the applicant may do something less than fully minimize and mitigate the impacts of the take where to do more would not be practicable,” while still advancing Section 7(a)(2) obligation to ensure that any federal activity is not likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of habitat.<sup>22</sup> Accordingly, there is no legal basis to impose a “net conservation

gain" standard in any way in the land use planning process. 22 See *National Wildlife Federation v. Norton*, 306 F. Supp. 2d 920, 928 (E.D. Cal. 2004).

1. FLPMA has an over-arching non-degradation mandate.

<https://www.blm.gov/or/regulations/files/FLPMA.pdf> 2. Neither FLPMA nor the Taylor Grazing Act mandates any particular level or frequency of livestock grazing or even that any particular lands be used for livestock. 43 U.S.C. § 315-315(r)(2000) 3. FLPMA expressly authorizes the BLM to "totally eliminate" any of the enumerated "principal uses" 43 U.S.C. § 1712 (e) and, specifically, to discontinue grazing to devote public lands to a "public purpose." 43 U.S.C. § 1752 (b)(2),(g) 4. FLPMA's definition of multiple use calls for management that "takes into account the long term needs of future generations for renewable and nonrenewable resources, to meet the present and future needs of the American people. 43 U.S.C. § 1702 (c) 5. FLPMA defines sustained yield as "the achievement and maintenance in perpetuity (my emphasis) of a high-level annual or regular periodic output of the various renewable resources of the public lands consistent with multiple use. 43 U.S.C. § 1702(h) 6. In its planning directives, FLPMA requires the BLM to give priority to the designation and protection of areas of critical environmental concern. 43 U.S.C. § 1702 (c). The ACECs should be based in science. 7. FLPMA requires "consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output." 43 U.S.C. § 1702 (c). For instance, only 1.9% of US beef comes from BLM public lands (Kuhn 2020), and BLM public lands grazing accounts for only 0.41% of U.S. livestock receipts (Department of Interior Fiscal Year 2012 Economic Report).

The Multiple-Use Sustained-Yield Act lists standards and guidelines for management of public lands: 16 U.S.C. § 1604(g) (2000) \* Suitability \* Inventory of renewable resources, including soil and water \* Consideration of economic and environmental aspects \* Providing for diversity of plants and animal communities based on the suitability of the specific area How has BLM management incorporated these standards and guidelines? Loss of sagebrush and its many dependent species is a major environmental concern, yet there is little evidence the BLM is serious about the conservation of this habitat, even with its many documents concerning sage grouse habitat. The BLM should insure evaluation of the effects of each management system so that it will not result in substantial and permanent impairment of the productivity of the land. The maintenance of viable ecosystems is essential to providing a sustained yield of all federal land uses. Multiple use and sustained yield cannot be separated.

Multiple use, as incorporated in existing law, is not synonymous with commodity extraction, but rather requires a balancing of commodity uses, noncommodity uses, and environmental protection (Hardt 1994). The purpose of this balancing exercise, according to the Interior Board of Land Appeals court, is to ensure that "all BLM decisions are in the public interest (*National Wildlife Federation v. BLM Management*, 140 IBLA 85, 101 1997). Maintaining sage grouse is in the public interest and is a noncommodity value on public land. Note: The Executive Summary for this DSEIS emphasizes the role of state agencies in the responsibility for sage grouse, but state agencies have little or no jurisdiction over the management of the ground, ie. habitat, which is the whole point of federal public land management documents like this one.

The BLM 2018 Public Land Statistics Report (online), reporting on the condition of a sample of 2665 riparian areas under its jurisdiction in Nevada, found: Proper Functional Condition - 33% Functional at Risk - 49% Non-functional - 17% Twenty years ago the BLM warned that a "large part of the Great Basin lies on the brink of ecological collapse," and the BLM attributed the "downward spiral of ecological

conditions" on 75 million acres of public lands in the Great Basin to invasive plant species (primarily cheatgrass) and fire, and it related both fire and vegetative conditions to livestock grazing. (BLM 2000). Why does the BLM now ignore this causative relationship and the science supporting it?

We are in the midst of a national emergency around COVID-19, which is making it exceptionally difficult for people to participate in comment processes. Proceeding with lease sales would violate the public participation requirements of the Federal Land Policy and Management Act (FLPMA) and National Environmental Policy Act. In particular, FLPMA requires that BLM conduct land use planning processes "with public notice" and must provide "the public adequate notice and an opportunity to comment upon the formulation of standards and criteria for, and to participate in, the preparation and execution of plans and programs for, and the management of, the public lands." 43 U.S.C. §§ 1712(a), 1739(e). NEPA requires that "environmental information is available to public officials and citizens before decisions are made and before actions are taken" and reiterates that "public scrutiny is essential to implementing NEPA." 40 C.F.R. § 1500.1(b). Further, NEPA obligates the BLM to "[m]ake diligent efforts to involve the public in preparing and implementing their NEPA procedures." 40 C.F.R. § 1506.6(a).

Moving forward with comment periods and decisions when the public is unable to properly participate violates the requirements of NEPA and FLPMA. BLM's public rooms are closed (making it difficult to conduct research), and state and local orders are encouraging people to stay at home and limiting travel. Notably, Oregon ranks 34th for broadband for internet access, I compounding the challenges with participating in this process. Broadband internet is particularly problematic in rural areas of the state, exacerbating the challenges of participation in areas likely to be affected by leasing and other activities authorized by the proposed amendments. I Ranking is based on the % of the population with access to +25 mbps wired broadband (see <https://broadbandnow.com/Colorado>).

Members of Congress, attorneys general, and state and local governments have submitted requests that the federal government pause or extend public comment periods for rulemaking efforts and other processes during the novel coronavirus pandemic.<sup>2</sup> Administrative actions and public comment periods for other federal agency actions are being suspended or extended for "to be determined" amounts of time due to the national emergency.<sup>3</sup> BLM should heed these many indications that it is not responsible to move forward with this process. <sup>2</sup> See, e.g., letter from fourteen House of Representatives Committee Chairs to Office of Management and Budget, Acting Director Russell Vought, submitted April 1, 2020: [https://www.eenews.net/assets/2020/04/02/document\\_gw\\_08.pdf](https://www.eenews.net/assets/2020/04/02/document_gw_08.pdf); letter from Senators Wyden, Merkley, and Udall to Secretary Bernhardt requesting a pause on comment periods, submitted April 3, 2020: <https://www.wyden.senate.gov/imo/media/doc/040320%20Letter%20on%20DOI%20comment%20periods.pdf>; letter from state attorney generals to Office of Management and Budget, Acting Director Russell Vought, submitted March 31, 2020: [https://portal.ct.gov/-/media/AG/Press\\_Releases/2019/COVID-19-Rule-Delay-Letter---Final.pdf?la=en](https://portal.ct.gov/-/media/AG/Press_Releases/2019/COVID-19-Rule-Delay-Letter---Final.pdf?la=en); Letter from various state and local government organizations requesting a pause on all public comment and rulemaking processes, submitted March 20, 2020: <https://www.nga.org/letters-nga/state-and-local-government-organizations-seek-pause-on-public-comments-on-rulemaking-processes/> <sup>3</sup> For example, DOI's Interior Board of Land Appeals extended all filing deadlines by 60 days in response to COVID-19; the Daniel Boone National Forest Supervisor suspended the public objection period for its planning effort in light of COVID-19; and the U.S. Forest Service extended a public comment period for the Nantahala and Pisgah forest plan revision with the

length of time to be determined (available at: <https://www.fs.usda.gov/detail/nfsnc/home/?cid=stelprdb5397660>).

Although the Draft EISs that supported the 2019 Amendments were issued for a 90-day comment period, BLM only issued this Draft SEIS for 45 days. While BLM extended the comment period for an additional 45 days on the date that the original comment period expired, this last minute action does not evidence good faith compliance with NEPA's requirements.

We also note that BLM failed to conduct scoping as part of this supplemental NEPA process. Although scoping is not absolutely required when completing supplemental analysis, a scoping period is commonly offered during supplemental NEPA, especially when such supplemental analysis was in response to a court order. See, 40 CFR § 1502.9(c)(4); Notice of Availability of the Draft Amendment to the Approved Resource Management Plan for the Miles City Field Office, Montana, and the Associated Supplemental Draft Environmental Impact Statement, 84 Fed. Reg. 22,516 (May 17, 2019); Notice of Availability for the Draft Supplemental Environmental Impact Statement and Potential Amendment for the Approved Resource Management Plan for the Buffalo Field Office, Wyoming, 84 Fed. Reg. 22,515 (May 17, 2019). The intent of scoping is to focus the analysis on significant issues and reasonable alternatives, to eliminate extraneous discussion, and to reduce the length of the EIS. By skipping this opportunity to solicit public input and influence the scope of supplemental analysis, BLM has further undermined this process.

The Richardson court clarified that providing members of the public with an opportunity to comment, does not fulfill the purposes of NEPA if further analysis was not provided, stating: "[a] public comment period is beneficial only to the extent the public has meaningful information on which to comment." 565 F.3d at 708. Commenters on the 2019 Plan Amendments raised concerns with BLM's reliance on previous analysis and incorporation by reference. BLM did not change its approach in the 2019 Amendments and did not do so in the Draft Supplemental EISs. Instead, as noted above, BLM states that it will determine after the comment period on the Draft Supplemental EISs if it should conduct any new analysis of alternatives or information. Recommendation: If BLM intends to proceed with a Supplemental EIS process, then BLM must provide sufficient opportunities for meaningful public engagement, including a 90-day comment period on a Draft Supplemental EIS.

As summarized above and by the BLM, the WWP v. Schneider court identified four significant failings in the BLM's NEPA analysis in the 2010 Plan Amendment. BLM failed to remedy these violations and still needs to do so. Since BLM did not address these flaws, which we raised repeatedly in our comments and protest on the 2019 Amendments, we incorporate those by reference and have attached our protest and overarching comments on the Draft Amendments for easy reference as Exhibits 1 and 2.

BLM must take a "hard look" at the environmental consequences of a proposed action, and the requisite environmental analysis "must be appropriate to the action in question." *Metcalf v. Daley*, 214 F.3d 1135, 1151 (9th Cir. 2000); *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 348 (1989). The court found that BLM did not take the requisite hard look, noting its failure to respond to FWS and EPA concerns and finding "when the BLM substantially reduces protections for sage grouse contrary to the best science and the concerns of other agencies, there must be some analysis and justification - a hard look - in the NEPA documents." *WWP v. Schneider*, 417 F.Supp.3d at 1332. However, BLM did not conduct a new analysis to remedy this failure. Instead, BLM claims the "DSEIS also clarifies how the BLM considered comments, including those of other federal agencies and experts (including EPA), when

developing its 2019 planning decisions." Oregon Draft SEIS, p. ES-3. Instead of addressing the need for an actual response in this Draft Supplemental EIS, BLM just notes that it "responded to each of EPA's comments and made corrections and/or changes in the 2018 FEISs" and states those responses "can be found in the administrative record." *Id.*

BLM removed the requirement for compensatory mitigation through the 2019 Amendments without providing an opportunity for public comment. As we have repeatedly pointed out and the court noted, "FWS relied on the mandatory compensatory mitigation provisions of the 2015 Plans to make its finding that an ESA listing was not warranted." *WWP v. Schneider*, 417 F.Supp.3d at 1333. The court found that "BLM's elimination of mandatory compensatory mitigation through the Final EISs appears to constitute both a "substantial changes" to its proposed action and "significant new circumstances" under 40 C.F.R. § 1502.9(c), requiring that BLM have issued a supplemental draft EIS for public review and comment before finalizing changes." *WWP v. Schneider*, 417 F.Supp.3d at 1333. By refusing to disclose its Proposed Action until after all opportunity for comment has passed, an agency insulates its decision-making process from public scrutiny. Such a result renders NEPA's procedures meaningless." *State of Cal. v. Block*, 690 F.2d 753, 771 (9th Cir. 1982). Yet in the Draft Supplemental EIS, BLM implies that it would not consider the comments received or complete supplemental analysis on this topic, stating: This clarification simply aligns the 2018 Proposed Plan Amendment with BLM policy and the scope of compensatory mitigation authority expressly provided by FLPMA. Any analysis of compensatory mitigation relating to future projects is speculative at this level of land use planning; therefore, analysis of compensatory mitigation is more appropriate for future project-specific NEPA. Nevada Draft SEIS, p. 4-43 - 4-44.

In considering the argument that a net conservation gain standard for compensatory mitigation violated FLPMA, the court stated: The FEIS states that if actions by third parties result in habitat loss and degradation, even after applying avoidance and minimization measures, then compensatory mitigation projects will be used to provide a net conservation gain to the sage-grouse. The Agencies' goals to enhance, conserve, and restore sage-grouse habitat and to increase the abundance and distribution of the species, they argue, is best met by the net conservation gain strategy because it permits disturbances so long as habitat loss is both mitigated and counteracted through restorative projects. If anything, this strategy demonstrates that the Agencies allow some degradation to public land to occur for multiple use purposes, but that degradation caused to sage-grouse habitat on that land be counteracted. The Court fails to see how BLM's decision to implement this standard is arbitrary and capricious. Moreover, the Court cannot find that BLM did not consider all relevant factors in choosing this strategy... *Western Exploration, LLC v. U.S. Department of the Interior*, at 747. BLM's conclusions in IM 2019-018, cannot be supported by applicable law, as reviewed in Solicitor's Opinion M-37039 (Dec. 21, 2016) (attached and incorporated by reference as Exhibit 5). As detailed in M-37039, FLPMA and other applicable laws allow BLM to require compensatory mitigation. Taking the opposite approach based on a misreading of the law is both arbitrary and capricious and contrary to law, and moreover may violate FLPMA's requirement to avoid unnecessary or undue degradation. Abandoning compensatory mitigation as a tool to prevent habitat degradation would violate this requirement. As noted above, the unnecessary and undue degradation standard prohibits degradation beyond that which is avoidable through appropriate mitigation and reasonably available techniques. *TRCP*, 661 F.3d at 76-77; *Colo. Env. Coal*, 165 IBLA at 229. Offsite compensatory mitigation is a well-established, reasonable and appropriate tool that has long been used to limit damage to public lands. Refusing to use that tool fails to meet FLPMA's requirement that BLM avoid unnecessary or undue degradation.

Based on the weakened protections in the 2019 Amendments and the increased harm to sagebrush habitat related to wildfires and oil and gas development, the changes from the 2015 Sage-grouse Plans will affect numerous other plants and wildlife species, including those that are listed as threatened or endangered under the ESA. Since these are new risks of harm, arising out of BLM's changes in policy and amendments to the 2015 Plans, BLM cannot rely on findings from the 2015 ESA consultations. The ESA requires that BLM again undertake consultation with FWS under the ESA. Recommendation: If BLM intends to proceed with a Supplemental EIS process, then BLM must address the failure to consult under the ESA.

While issuing six Draft Supplemental EISs for comment, BLM has not actually undertaken a supplemental NEPA process. The agency has failed to provide a sufficient timeframe or structure for meaningful public input. Further, the environmental documents generally re-state (and often exactly re-state) the conclusions from the 2019 Amendments without conducting any additional analysis or taking into account new information and changed circumstances. BLM must thoroughly evaluate the real environmental effects of the 2019 Amendments. Because the 2019 Amendments undermine the key components of the 2015 Sage-grouse Plans that FWS relied on to justify finding the sage-grouse no longer warranted under the ESA, BLM must evaluate alternatives that will not jeopardize the survival of the species. In addition, BLM must consult with FWS regarding the impacts of the changes to the 2015 Sage-grouse Plans on species listed under the ESA.

Although the court in *WWP v. Schneider* held that BLM must consider impacts from the changes proposed in the 2019 Amendments, BLM glosses over these impacts in the Draft Supplemental EISs. For example, the Utah Draft Supplemental EIS states: At most, the prioritization objective could potentially result in temporarily deferring a parcel in PHMA from leasing to a later sale, but only in instances of large lease sales where staff capacity would be incapable of analyzing all the nominated parcels. Because the mineral leasing prioritization objective provides no certain or durable protection to PHMA, its removal would not increase threats, since the no surface occupancy stipulation is still in effect. Utah Draft SEIS, p. 4-52. Similarly, in the Northwest Colorado Draft Supplemental EIS, BLM acknowledges that the Management Alignment Alternative makes approximately 224,200 acres available for fluid mineral leasing that are closed under the No-Action Alternative. The Draft Supplemental EIS also acknowledges that "criteria for waivers, exceptions, and modifications in PHMA beyond 1 mile from active leks to allow for surface occupancy in cases where specific mitigation standards are met in consultation with CPW and/or it can be demonstrated that, due to topography, no impact on Greater Sage-Grouse or Greater Sage-Grouse habitat would occur," affecting these same acres. Northwest Colorado Draft SEIS, pp. 4-41 - 4-42. Nonetheless, BLM simply concludes, again: "Although the additional acres would be available to leasing, their impact on Greater Sage-Grouse would be similar to the No-Action Alternative" because "surface disturbance, fragmentation, and indirect habitat loss would not be expected to increase due to restrictions on surface disturbance." Northwest Colorado Draft SEIS, p. 4-42. In both situations, BLM concluded that there would be no increase in threats, although the new approaches are qualitatively different. The agency's conclusory statements eliminate the opportunity for rational decision-making; the decision is stated without explanation and does not allow for BLM or the public to be fully informed.

FLPMA unquestionably provides BLM with ample support for requiring compensatory mitigation, including its direction to manage public lands in a manner to ensure the protection of ecological and environmental values, preservation and protection of certain public lands in their natural condition, and

provision of food and habitat for wildlife;<sup>6</sup> and to "manage the public lands under principles of multiple use and sustained yield".<sup>7</sup> The principles of multiple use and sustained yield pervade and underpin each of BLM's authorities under FLPMA, including the policies governing the Act,<sup>8</sup> the development of land use plans,<sup>9</sup> the authorization of specific projects,<sup>10</sup> and the granting of rights of way.<sup>11</sup> While FLPMA does not elevate certain uses over others, it does delegate discretion to the BLM to determine whether and how to develop or conserve resources, including whether to require enhancement of resources and values through means such as compensatory mitigation.<sup>12</sup> In sum, these statutory policies encompass the protection of environmental and ecological values on the public lands and the provision of food and habitat for fish and wildlife and are furthered by the implementation of the mitigation hierarchy, including compensatory mitigation, to protect and preserve habitat for the sage grouse. <sup>6</sup> 43 U.S.C. § 1701(a)(8). Among other things, public resources should be managed to "protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archaeological values" and "provide food and habitat for fish and wildlife". <sup>7</sup> 43 U.S.C. § 1732(a). <sup>8</sup> 43 U.S.C. § 1701(a)(7). <sup>9</sup> 43 U.S.C. § 1712(c)(1). <sup>10</sup> 43 U.S.C. § 1732(a). <sup>11</sup> 43 U.S.C. § 1765(a)(i). <sup>12</sup> P. L. 94-579 (Oct. 21, 1976) (stating an intent "[t]o establish public land policy; to establish guidelines for its administration; to provide for the management, protection, development, and enhancement of the public lands; and for other purposes." (emphasis added)). Additional authority also exists for the use of the mitigation hierarchy in issuing project-specific authorizations. For example, project-specific authorizations must be "in accordance with the land use plans,"<sup>13</sup> so if the land use plans adopt the mitigation hierarchy or other mitigation principles for the sage grouse under the various authorities described above, the project authorization must follow those principles. Moreover, in issuing project-specific authorizations, BLM may attach "such terms and conditions" as are consistent with FLPMA and other applicable law.<sup>14</sup> This general authority also confers broad discretion on BLM to impose mitigation requirements on project applicants, including compensatory mitigation in appropriate circumstances.<sup>15</sup> <sup>13</sup> 43 U.S.C. 1732(a). <sup>14</sup> 43 U.S.C. § 1732(b). <sup>15</sup> BLM also has authority and/or obligations to ensure that all its operations protect natural resources and environmental quality, through statutes such as the Mineral Leasing Act of 1920, 30 U.S.C. 181 et seq.; see also *Independent Petroleum Assn. of America v. DeWitt*, 279 F.3d 1036 (D.C. Cir. 2002) (Act grants "rather sweeping authority" to BLM, or NEPA, 42 U.S.C. 4321; see also 40 C.F.R. § 1505.2(c), which requires consideration of mitigation alternatives where appropriate. In addition, BLM's authority under FLPMA is broader than that exercised by purely land use or regulatory agencies such as EPA or zoning boards, because BLM [has authority] to act as both a regulatory and as a proprietor. Accordingly, BLM can take action using all the tools provided by FLPMA for managing the public lands, including issuing regulations, developing land use plans, implementing land use plans or in permitting decisions. 43 U.S.C. §§ 1712(a), 1732(a), 1732(b). Finally, as a distinct authority, BLM also has the obligation to ensure that project-specific authorizations do not result in "undue or unnecessary degradation." FLPMA states that BLM "shall, by regulation or otherwise, take any action necessary to prevent unnecessary or undue degradation of the lands."<sup>16</sup> A number of cases have found that BLM met its obligation to prevent unnecessary or undue degradation based, in part, on its imposition of compensatory mitigation. See e.g., *Theodore Roosevelt Conservation Partnership v. Salazar* ("TRCP"), 616 F.3d 497, 518 (D.C. Cir. 2010) (BLM decision to authorize up to 4,399 natural gas wells from 600 drilling pads did not result in "unnecessary or undue degradation" in light of substantial mitigation required from permittees, including prohibition of new development outside core area until comparable acreage in the core was restored to functional habitat, and a monitoring and mitigation fund of up to \$36 million); see also *Gardner v. United States Bureau of Land Management*, 638 F.3d 1217, 1222 (9th Cir. 2011) (FLPMA provides BLM "with a great deal of discretion in deciding how to achieve the objectives" of preventing "unnecessary or undue degradation of public lands.") <sup>16</sup> 43 USC § 1732(b).

The FLPMA requires that BLM conduct land management based on multiple use and sustained yield so that their various resource values are utilized in the combination that will best meet the present and future needs of the American people and that balances diverse resource uses. 8 FLPMA's multiple use directive informs Secretarial Order (SO) 3349, issued on March 29, 2017, ordering agencies to reexamine practices "to better balance conservation strategies and policies with the equally legitimate need of creating jobs for hard-working American families." On June 7, 2017, the Secretary issued Secretarial Order 3353 which aimed to enhance cooperation among eleven western states and the BLM in managing Sage-grouse, created the Sage-grouse Technical Review team, and generated the six plan amendments. The County worked with NACO and provided scoping comments, participated in multiple cooperating agency meetings and phone calls, commented on the Preliminary Draft EISs and Draft EIS, and participated in the Protest Process prior to the March 2019 signing of the Record of Decision.<sup>9</sup>

The Idaho District court granting the motion to preliminarily enjoin the 2019 plans relies in large part on the assumption that the 2015 plans were based on the sound science, specifically the findings and suggestions contained in the 2011 National Technical Team (NTT) and 2013 Conservation Technical Team (COT) Reports.<sup>11</sup> The Idaho District Court incorrectly assumed in its decision that the NTT and COT reports represent the best available science, and therefore, any deviation from these reports amounts to an unjustified reduction in protection for the Sage Grouse.<sup>12</sup> This reliance on the NTT and COT Reports is misplaced. <sup>11</sup> See *Western Watersheds Project et al v. Schneider et al*. Case No. CV-00083-BLM, 2019, at 11, 17. (D. Idaho Oct. 16, 2019). <sup>12</sup> *Id.* The 2011 NTT Report and the 2013 COT Report did not receive adequate peer review and suffered from a number of substantive flaws including: ignoring substantial threats such to the Greater Sage Grouse such as predation in favor of unsupported conjectures regarding human impact; failure to account for natural population fluctuations due to weather patterns; not using the best available science, and were policy rather than science driven. These flawed reports suggested the adoption of equally flawed measures that became central to the 2015 planning effort including the designation of Sage Brush Focal Areas (SFAs) and the establishment of lek buffers.

The Idaho District Court ignored BLM's IM and its well-founded interpretation of the law that FLPMA does not support mandatory compensatory mitigation and the Service's withdrawal of the policies on which net conservation gain was based. It is inappropriate to conclude that the rescission of unauthorized standards can serve as a degradation in species protection under the law. By extension, it is also inappropriate to conclude that the BLM violated NEPA by failing to analyze the impacts of not implementing standards it was not authorize to implement in the first place, and which had since been rescinded.

Single-Purpose Land Use Plans Violate FLPMA and NFMA Multiple Use Mandate BLM and USFS are charged with managing lands under their jurisdiction for multipleuse and sustained yield under the guiding principles of FLPMA and NFMA. BLM's multiple-use management objective states that: "The objective of resource management planning by the Bureau of Land Management is to maximize resource values for the public through a rational, consistently applied set of regulations and procedures which promote the concept of multiple use management and ensure participation by the public, state and local governments, Indian tribes and appropriate Federal agencies. Resource management plans are designed to guide and control future management actions and the development of subsequent, more detailed and limited scope plans for resources and uses." 43 CFR § 1601.0-2.



Statements in the DSEISs are revelatory in their admission that BLM hasn't actually changed anything from the 2018 FEIS, but the agency instead seeks to provide exculpatory evidence to overturn the court's decision. For example, the DSEIS's "Introduction to Chapter 4, Environmental Consequences," (Idaho at 4-1) states, "The purpose of this chapter is to describe to the decision-maker and the public the differences between the entire range of alternatives considered in 2018, including the 2018 Draft Plan (Management Alignment Alternative), the 2018 Proposed Plan Amendment, as well as the range of alternatives incorporated by reference from the 2015 plan amendments. It is meant to clarify that Greater Sage-Grouse management was comprehensively analyzed in 2018 through multiple NEPA and planning processes." This assumes that the court's injunction simply missed something that was already in the 2018 plans rather than that the Court accurately identified the BLM's failure to properly analyze and disclose the effects of a range of alternatives in the 2018 plans. Simply, the DSEIS reads more like an excuse for the 2018 FEIS's inadequacies than any real attempt to remedy the inadequacies the litigation identified. This is not the purpose of NEPA.

FLPMA mandates that the Secretary of Interior "shall" take any action necessary to prevent "unnecessary or undue degradation" of public lands. Id. § 1732(b). FLPMA further provides that BLM public lands "shall" be managed "for multiple use and sustained yield." Id. § 1732(a). The definition of "multiple use" calls for "harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output." Id. § 1702(c) (emphasis added). Both the "non-impairment" and "unnecessary and undue degradation" provisions constrain BLM's discretion in adopting or revising its land use plans. This prohibition on permanent impairment of the environment in FLPMA's definition of multiple-use is unique and purposeful. Instead of using the definition of multiple-use from the Multiple-Use Sustained-Yield Act, as it did in enacting NFMA, Congress chose to weave this environmental protection mandate into FLPMA's multiple-use provisions. See H. R. Rep. No. 94-583, 94th Cong. 1st Sess. (Dec. 18, 1975). BLM's 2019 amendments violate these mandates by allowing unnecessary/undue degradation and permanent impairment of greater sage-grouse habitat and populations. As we explain in more detail below, recent population data and triggers demonstrate that the 2015 protections are not having the desired effect of recovering sage-grouse populations and habitats. In the face of this data demonstrating that the existing regulatory mechanisms are insufficient to sustain the sage-grouse species, it is clear that further weakening the plans will only hasten this species' decline toward extinction and permanently impair BLM's ability, should ESA listing be necessary, to later recover the species.

Under FLPMA, the BLM must "use a systematic interdisciplinary approach to achieve integrated consideration of physical, biological, economic, and other sciences;" "consider the relative scarcity of the values involved and the availability of alternative means (including recycling) and sites for realization of those values;" and "weigh long-term benefits to the public against short-term benefits." 43 U.S.C. § 1712. The DSEISs do none of these things and instead seek to justify decisions to open public lands and sage-grouse habitat to more industrial and extractive uses, contrary to the science, and contrary to the broad interest in conserving the Sagebrush Sea and the numerous sensitive, imperiled, and rare species found there.

The current plans do not comport with the COT Report recommendations-which were themselves weakened due to political influence-instead representing the very minimum that is necessary for the

agency to do. Since these proposed actions are inconsistent with the COT's recommendations, the 2019 plans fail to comply with FLPMA's overarching mandate.

For these and other reasons already outlined in the protests of 2019 and the comments of 2018, the BLM's DSEISs fail to reconcile the proposed actions with the mandates of FLPMA.

In *Western Watersheds Project v. Schneider*, 1:16-cv-083-BLM (D. Idaho), the court specifically addressed the fact that BLM issued six separate EISs in 2019 rather than provide one cumulative effects analysis covering the broad, multi-state range of the sage-grouse. See Attachment A. The BLM persists in this error by issuing now six separate DSEISs.

As examples, reasonably foreseeable future actions that should be analyzed in the SEIS are the revisions underway to the CEQ NEPA rules and the BLM's grazing regulations. To the extent that any of the ARMPA provisions rely on future NEPA processes, the agency must admit the extent to which those NEPA processes may no longer be required. For example, the ARMPAs rely on assessments of habitat conditions and impacts of livestock grazing at the time of permit renewal and land health evaluation, but BLM is proposing to revise the processes of permit renewal and the spatial and temporal extent of land health evaluations.<sup>37</sup> Though BLM's plans here are not entirely clear, it is clear that changing the underlying management of grazing - the most widespread extractive use in sage-grouse habitat - will affect the authority and enforceability of the ARMPAs. <sup>37</sup> <https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=renderDefaultPlanOrProjectSite&projectId=1500093>

The Council on Environmental Quality's proposed NEPA regulations could also reduce the level of environmental analysis performed for oil and gas lease sales, exploration, and development through encouraging greater use of Categorical Exclusions, as well as elimination of NEPA analysis for actions deemed to be "non-discretionary." The proposed regulations could also reduce the NEPA analysis that mining exploration and development currently undergoes, again related to elimination of NEPA analysis for "non-discretionary" actions. As a result, oil and gas and mining impacts to greater sage-grouse could occur without the level of NEPA scrutiny they currently require, which BLM must address in these SEISs

It is likely that there are additional regulatory changes with impacts to sage-grouse that BLM has not considered in these extremely brief and conclusory DSEISs. In taking the required hard look at the impacts of the Plans, BLM must fully consider all anticipated regulatory changes that could apply to sage-grouse habitats.

Also demonstrating the political purpose of the Plan revision process, BLM seems to argue that its plan to craft management of federal lands around state plans is required to comply with FLPMA. The EISs quote selectively (and incompletely) from FLPMA, claiming that FLPMA directs "BLM to develop its land use plans to 'be consistent with State and local plans to the maximum extent'" and to "resolve, 'to the extent practical, inconsistencies between Federal and non-Federal government plans.'" ID DSEIS at S-1-2 to S-1-3 (quoting 43 U.S.C. § 1712(c)(9)); and see Northwest Colorado DSEIS at App-3-2. These partial quotes mischaracterize BLM's responsibilities under FLPMA, which directs: In implementing this directive, the Secretary shall, to the extent he finds practical, keep apprised of State, local, and tribal land use plans; assure that consideration is given to those State, local, and tribal plans that are germane in the development of land use plans for public lands; assist in resolving, to the extent practical, inconsistencies between Federal and non-Federal Government plans...Land use plans of the Secretary under this section

shall be consistent with State and local plans to the maximum extent he finds consistent with Federal law and the purposes of this Act.

BLM must only develop its land use plans to be consistent with State plans "to the extent...consistent with Federal law and the purposes of [FLPMA]" and must only resolve inconsistencies between Federal and non-Federal Government plans "to the extent practical." *Id.* As we have explained, repeatedly, in previous comments and Court filings, aligning BLM's approach with the States' is not "practical" or "consistent with Federal Law and the purposes of" FLPMA because it departs drastically from what the best available science shows is necessary to protect sage-grouse. In 2015, both BLM and FWS determined that the alternatives favored by certain states did "not incorporate adequate regulatory mechanisms . . . to conserve, enhance, and restore [greater sage-grouse] and its habitat." BLM has provided no rational explanation for why it now believes that these weaker plans are suddenly adequate to conserve sage-grouse populations, nor has it consulted with the USFWS on this point. If the purpose of the sage-grouse plan amendments is to provide adequate habitat protections on Federal lands to prevent sage-grouse from needing protection under the ESA, BLM must implement the measures that science shows are required. Indeed, that State plans fail to require or implement those measures is exactly why federal action is necessary.

NEPA requires EISs to "[s]tate whether all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted, and if not, why they were not." 40 CFR§ 1505.2. BLM has again violated this requirement. It is clear that many other means of protecting sage-grouse are available. BLM has a duty under NEPA to disclose these measures and its rationales for rejecting them.

The BLM has failed to consult with the Fish and Wildlife Service about the impacts of the proposed plan. The ESA requires that an agency must consult whenever an action "may affect" a listed species or its critical habitat. See 50 C.F.R. § 402.14(a). The sage-grouse plan revisions will affect millions of acres and hundreds of species' habitats, but the BLM failed to consult with FWS over the effects of the plan on any listed or proposed-to-be-listed endangered or threatened species. This violates Section 7 of the ESA and must be remedied before a new decision on the SEISs is issued. See also Pidot (2018) for an assessment of the 2015 and 2019 plans with regard to their adequacy under the ESA and Timmer et al. (2019) for a discussion of sage-grouse as an umbrella species for sagebrush songbirds.

### **S-3.4 IDAHO-SPECIFIC COMMENT EXCERPTS**

#### **S-3.4.1 Purpose and Need**

In explaining the Purpose and Need for this EIS, BLM states: "In response to these comments and information supplied by the states about how to align with their compensatory mitigation laws and policies, the 2018 Final EIS clarified the BLM's approach to compensatory mitigation in its Proposed Plan Amendment. Through this Draft Supplemental EIS (DSEIS), the BLM now seeks additional comment from the public on compensatory mitigation." Idaho DSEIS at I-3. In explaining the Purpose and Need for the Wyoming DSEIS, BLM states, "The BLM has prepared this DSEIS to review its previous NEPA analysis, clarify and augment it where necessary, and provide the public with additional opportunities to review and comment... To inform this decision that the BLM will make, it has prepared this DSEIS to address four specific issues: the range of alternatives, need to take a "hard look" at environmental impacts, cumulative effects analysis, and the BLM's approach to compensatory mitigation." Wyoming DSEIS at I-4. However, there is precious little additional analysis to remedy the defects identified in the Preliminary Injunction order by the US District Court of Idaho. The Purpose and Need statement is

impermissibly narrow, and excludes necessary amendments to the 2015 ARMPAs to improve habitat protections, and make them more readily applicable to land management.

#### **S-3.4.2 Modifying Waivers, Exceptions, and Modifications of Fluid Minerals Determinations**

The no surface occupancy (NSO) requirement in PHMA should be consistent with the Governor's plan to include the flexibility of an exception, waiver, or modification process.

MD LR 2: We are conditionally supportive of the revision to MD LR 2. We say "conditionally supportive" because the language is confusing. The DSEIS at page 2-8 states, as to MD LR 2, the following: MD LR 2: PHMA-Designate and manage as ROW avoidance areas, consistent with MD SSS 29 and subject to RDFs and buffers (Appendices B and C). IHMA-Designate and manage as ROW avoidance areas, consistent with MD SSS 30 and subject to RDFs and buffers. GHMA- Designate and manage as open, with proposals subject to BMPs, as described in Appendix C [of the 2018 Final EIS]." DSEIS at page 2-8. However a reading of MD SSS 29, as well as MD SSS 27, is specific to "anthropogenic disturbance" and to any "anthropogenic disturbance cap"; which is not applicable to livestock grazing - as discussed in Section VII. herein. In addition, we do not find that the DSEIS explicitly defines what is or what constitutes a "ROW avoidance areas".

#### **S-3.4.3 Habitat Boundary/Habitat Management Area Designations**

Modifying Habitat Boundary Designations - Integration of flexibility into the plans to be able to adjust habitat management area boundaries without the need for a plan amendment.

Converting Important Habitat Management Areas (IHMAs) to PHMA in Idaho;

We note that the Habitat Management Area and General Habitat Management Area lek buffers in the Draft SEIS do not fall within the U.S. Geological Survey interpreted range, and therefore, it is implied in the Draft SEIS that the Idaho Sage Grouse Task Force provided additional input. It would be helpful to agency decision makers and the public to understand the Task Force's input that led to reducing the buffers to be less than the USGS's interpreted range. Disclosing the Task Force's rationale or input on project-related decisions by summarizing and incorporating it by reference in the Final SEIS would improve understanding regarding this decision.

The DSEIS further discusses Issue #1 at page 2-3, noting revisions from the 2015 ARMPA as to MD SSS 6, 44, and noting the deletion from the 2015 ARMPA as to MD SSS 9. See also DSEIS, Appendix I, at pages App-I-110 to App-I-118. While we support these revisions and deletions in the 2015 ARMPA, we oppose the omission of the plan amendment not requiring BLM to (also) assess the Habitat Management Areas as a condition precedent to any permit renewal process. Adding this additional requirement in the plan amendment is critically important to avoid BLM applying management actions during a permit renewal to area(s) in an allotment that may be identified "on a map" as PHMA, IHMA, or GHMA, but in reality are not PHMA, IHMA, or GHMA, due to their ecological site potential, including any altered states, such as cheatgrass monocultures or seeded rangeland. Adding this additional requirement would be consistent with the retained MD SSS 8, wherein the 2015 ARMPA commits Idaho BLM: to "annually update the Key Habitat map, in order to reflect habitat changes resulting from wildfire, succession, and vegetation treatments that occurred or were observed since the last update." See 2015 ARMPA at page 2-9 (MD SSS 8). In short, if Idaho BLM is going to be required to "annually update the Key Habitat map",

then BLM should equally be required to update the "Habitat Management Areas" and apply corrected habitat descriptions, as a condition precedent to any permit renewal.

Custer County requests BLM revisit land restrictions wherein plans for BLM administered lands in Idaho include protections for 4.1 million acres of Priority Habitat Management Areas (PHMA) and 2.7 million acres of Important Habitat Management Areas (IHMA) on BLM-managed surface and another 450,000 acres of PHMA and IRMA on BLM-administered federal mineral estate beneath nonfederal surface ownership. This is too much land being managed for one species.

While we support these revisions and deletions in the 2015 ARMPA, we oppose the omission of the plan amendment not requiring BLM to (also) assess the Habitat Management Areas as a condition precedent to any permit renewal process. Adding this additional requirement in the plan amendment is critically important to avoid BLM applying management actions during a permit renewal to area(s) in an allotment that may be identified "on a map" as PHMA, IHMA, or GHMA, but in reality are not PHMA, IHMA, or GHMA, due to their ecological site potential, including any altered states, such as cheatgrass monocultures or seeded rangeland. Adding this additional requirement would be consistent with the retained MD SSS 8, wherein the 2015 ARMPA commits Idaho BLM: to "annually update the Key Habitat map, in order to reflect habitat changes resulting from wildfire, succession, and vegetation treatments that occurred or were observed since the last update." See 2015 ARMPA at page 2-9 (MD SSS 8). In short, if Idaho BLM is going to be required to "annually update the Key Habitat map", then BLM should equally be required to update the "Habitat Management Areas" and apply corrected habitat descriptions, as a condition precedent to any permit renewal.

According to BLM, "Priority Habitat Management Areas (PHMA) are those that meet some stage of the Greater Sage-Grouse life-cycle requirements, based on best available science." Idaho DSEIS at I-6. The USFWS (COT 2013) outlined Priority Areas of Conservation to which the Priority Habitat protections of the National Technical Team (2011) were intended to apply. This is not true in Idaho, and designation changes will be necessary to include all high-density, undeveloped sage-grouse habitats in PHMA. In particular, BLM in 2015 designated 3.8 million acres identified by USFWS based on the best available science as Priority Areas for Conservation (PACs, their equivalent to PHMA) as IHMA with lower standards of protection, in order to create consistency with the scientifically weak and politically compromised Idaho state plan. This IHMA must be changed to PHMA status with its elevated levels of protection. Yet the BLM does not consider this as an alternative in the Idaho DSEIS, nor does the agency take a hard look at the comparative impacts of excluding these high-value habitats from PHMA, as under the 2015/2019 ARMPAs and the Management Alignment alternative, versus applying PHMA-level protections, as the best available science indicates they should receive.

#### **S-3.4.4 Sagebrush Focal Area (SFA) Designations**

Sagebrush Focal Area Designations - Sagebrush Focal Areas (SFA) duplicate many protections that are already in place through the designation of priority habitat management areas (PHMA). The SFA designation focuses on de minimis land use activities in Idaho, and does nothing to address the primary threats of wildfire and invasive species, nor do SFAs provide an appreciable benefit to Greater Sage-Grouse. SFAs also complicate the state's adaptive management process and negatively affect the economic viability of the state through land use prohibitions (i.e., locatable mineral withdrawal recommendation).

Our request to BLM is to take land withdrawals in the name of sage-grouse or other federally listed endangered, threatened, candidate or proposed species permanently off the table. In the name of economic stability, Custer County needs assurance that BLM will not come up with a new reason to withdraw land from mineral entry under the ESA. We request the Secretary of the Interior work with Congress to create a law against land withdrawals in the name of the ESA. Custer County recommends abolishing all reference to Sage-Grouse Focal Areas. This layer of management and associated restrictions is overreaching, and restrictions often fail to benefit the sage-grouse or its habitat because limiting factors are not being addressed.

#### **S-3.4.5 Disturbance and Density Caps**

The project scale disturbance cap is overly complex and does not provide the flexibility to cluster multiple projects in one area of a Biologically Significant Unit; thus, penalizing project collocation.

NACD encourages use of Ecological Site Descriptions (ESDs) and their associated State and Transition Models to frame conservation actions grounded in current rangeland science and the sites' true ecological potential through coordination and collaboration with CDs. Regarding range-wide disturbance caps, NACD recommends BLM only apply these based on the best available science and not simply through an arbitrary "math exercise." BLM should defer to state and local governments, including CDs, when developing or implementing any disturbance caps. Flexibility to adjust disturbance caps in accordance with updated data and/or science including site-specific conditions (such as ground-truthing) should also be allowed.

MD SSS 30, see comment as to Issue #6, which is incorporated herein, relative to MD SSS 30. Specifically, "anthropogenic disturbance development criteria" is not applicable to livestock grazing.

Comment as to Issue #3 - Adjusting Disturbance and Density Caps - Any plan amendment in the FSEIS should explicitly state that "anthropogenic disturbance" or any "anthropogenic disturbance cap" is not applied to livestock grazing. The DSEIS further discusses Issue #3 at pages 2-4 and 2-5, noting revisions from the 2015 ARMPA as to MD SSS 27, 29. See also DSEIS, Appendix I, at pages App-I-123 to App-I-127. We support these revisions to ensure that "anthropogenic disturbance" or any "anthropogenic disturbance cap" is not applied to livestock grazing. However, if our reading of the DSEIS is incorrect, we support an explicit statement in the plan amendment to clarify the point that "anthropogenic disturbance" or any "anthropogenic disturbance cap" do not relate to livestock grazing. This should equally apply to livestock grazing range improvements so as to clarify that the words "[o]ther vertical structures" at page 2-5 of the DSEIS does not mean fences, water tanks, or any other livestock grazing range improvements that may have some amount of vertical stature. See DSEIS, Appendix B, at page App-B-1 (wherein the DSEIS distinguishes between "Tall structures", such as communication or transmission towers/lines, and "Low structures", such as fences and rangeland structures).

The DSEIS further discusses Issue #3 at pages 2-4 and 2-5, noting revisions from the 2015 ARMPA as to MD SSS 27, 29. See also DSEIS, Appendix I, at pages App-I-123 to App-I-127. We support these revisions to ensure that "anthropogenic disturbance" or any "anthropogenic disturbance cap" is not applied to livestock grazing. However, if our reading of the DSEIS is incorrect, we support an explicit statement in the plan amendment to clarify the point that "anthropogenic disturbance" or any "anthropogenic disturbance cap" do not relate to livestock grazing. This should equally apply to livestock grazing range improvements so as to clarify that the words "[o]ther vertical structures" at page 2-5 of

the DSEIS does not mean fences, water tanks, or any other livestock grazing range improvements that may have some amount of vertical stature. See DSEIS, Appendix B, at page App-B-1 (wherein the DSEIS distinguishes between "Tall structures", such as communication or transmission towers/lines, and "Low structures", such as fences and rangeland structures). VIII. Comment as to Issue #4 - Modifying Lek Buffers - Any plan amendment in the FSEIS should allow modifications of any PHMA, IHMA, or GHMA buffers based upon "Justifiable Departures" and based upon "Buffer Exception Criteria for IHMA and GHMA". The DSEIS further discusses Issue #4 at page 2-6, noting revisions from the 2015 ARMPA as to MD SSS 35. See also DSEIS, Appendix I, at pages App-I-141 to App-I-144. We support this revision from the 2015 ARMPA's reference and reliance in MD SSS 35 upon the "USGS Report Conservation Buffer Distance Estimates for Greater Sage-Grouse - A Review (Open File Report 2014-1239)", see 2015 ARMPA at page 2-5, to the lek buffer-distances in accordance with Appendix B [of the 2018 Final EIS]", see DSEIS at page 2-6. See also DSEIS at page 2-15 (wherein the DSEIS reports the amendment to Appendix B, as to modification of buffer distances in IHMA and GHMA). We are specifically supportive of the plan amendment to allow modifications of any PHMA, IHMA, or GHMA buffers based upon "Justifiable Departures", as defined in the DSEIS, Appendix B, at page App-B-2, see also page App-B-3, and based upon "Buffer Exception Criteria for IHMA and GHMA", as defined in the DSEIS, Appendix B, at page App-B-2, see also page App-B-3. While we are generally supportive of the opportunity to revise, we stress, as we did in our comments to the 2015 process and to the 2019 process, that the "modeling" must be "ground-truthed" and verified, as per our previous comments, and our comments herein above at Section V. It is our experience that the federal and State agencies are not ground-truthing and verifying the habitats.

#### **S-3.4.6 Required Design Features (RDFs)**

The Required Design Features (RDFs) appendix is redundant and unclear, and does not provide managers the flexibility to apply the appropriate individual RDFs to address site-specific situations.

However, we are not supportive, and in fact oppose, that any plan amendment in the FSEIS does not allow the potential for any RDF to be changed or eliminated (in whole or in part) within PHMA and IHMA. Any proponent should maintain the ability to show that any RDFs aka BMPs are technically or economically impracticable and based thereon BLM should maintain the ability to change or eliminate the implementation of such RDF aka BMP. To permanently close the door to any such showing by a proponent can lead to unintended, adverse consequences to the species that DSEIS intends to protect!

However, we are not supportive, and in fact oppose any plan amendment in the FSEIS that does not allow the potential for any RDF to be changed or eliminated (in whole or in part) within PHMA and IHMA. Any proponent should maintain the ability to show that any RDFs aka BMPs are technically or economically impracticable and based thereon BLM should maintain the ability to change or eliminate the implementation of such RDF aka BMP. To permanently close the door to any such showing by a proponent can lead to unintended, adverse consequences to the species that DSEIS intends to protect!

#### **S-3.4.7 Habitat Objectives**

The Habitat Objectives table in the Idaho 2015 ROD/ARMPA are being interpreted and applied as hard and fast "standards" by the agencies, and not as objectives on the landscape. Clarification on its applicability and use are needed for each habitat indicator.

Comment to Issue #7 - Modifying Habitat Objectives - Any plan amendment in the FSEIS should ensure BLM is affirmatively required as a condition precedent to the assessment of the desired conditions in Table 2-2 to determine the ecological site potential and/or altered "state" of the habitat management areas within the allotment(s) to be assessed. The DSEIS further discusses Issue #7 at pages 2-8 and 2-9, noting revisions from the 2015 ARMPA as to OBJ SSS 2. See also DSEIS, Appendix I, at pages App-I-130 to App-I-132. We conditionally support the revision of OBJ SSS 2. We use the words "conditionally support" because, while the revisions change the elements in Table 2-2 of the 2015 ARMPA from "GRSG Seasonal Habitat Objectives", see 2015 ARMPA at page 2-4, to "Great Sage- Grouse desired conditions", see DSEIS at page 2-9, the DSEIS erroneously maintains the elements within Table 2-2 itself (except as to Nesting/Early Brood Rearing in Table 2-2, which is updated in the DSEIS, see DSEIS at page 2-9). Table 2-2 is not the end-all, assuming it was ever the begin-all of the seasonal needs of sage-grouse. Significant research is on-going. In fact, the DSEIS at page 4-49 cites to "Utah's Table 2-2 that incorporate[s] local science that will benefit Great Sage-Grouse and ensure that grazing management is conducted properly." The DSEIS at pages App-I-38 and App-I-45 also speak "that habitat objectives must account for local conditions and site variability".

We conditionally support the revision of OBJ SSS 2. We use the words "conditionally support" because, while the revisions change the elements in Table 2-2 of the 2015 ARMPA from "GRSG Seasonal Habitat Objectives", see 2015 ARMPA at page 2-4, to "Great Sage-Grouse desired conditions", see DSEIS at page 2-9, the DSEIS erroneously maintains the elements within Table 2-2 itself (except as to Nesting/Early Brood Rearing in Table 2-2, which is updated in the DSEIS, see DSEIS at page 2-9). Table 2-2 is not the end-all, assuming it was ever the begin-all of the seasonal needs of sage-grouse. Significant research is on-going. In fact, the DSEIS at page 4-49 cites to "Utah's Table 2-2 that incorporate[s] local science that will benefit Great Sage-Grouse and ensure that grazing management is conducted properly." The DSEIS at pages App-I-38 and App-I-45 also speak "that habitat objectives must account for local conditions and site variability".

We acknowledge that -- while DSEIS seems to recognize that Table 2-2 is not the end-all -- it continues to persist that Table 2-2 is the begin-all and it continues to allow BLM to default to Table 2-2 as the end-all - which erroneously puts the burden on the Permittee/Lessee.<sup>8</sup> We have previously commented to the 2015 process and the 2019 process that many researchers' successful nest parameters did not match Table 2-2, or the conditions required in Stiver et al 2015 (HAF), yet the nests were successful. See DSEIS at page 2-9, as to revisions to MD LG 16 (wherein such Management Direction defaults to "[i]ncorporat[ing] ... desired conditions in Table 2-2" as part of a grazing permit renewal process with only caveat that "these conditions may not be achievable"). The plan amendment as to OBJ SSS 2 (and MD LG 15, which is part of Issue #8) should include the added obligation upon BLM beyond just "consider[ing]" the ecological site potential in designated habitat management areas, see DSEIS at page 2-8, but instead to affirmatively require BLM to determine the ecological site potential and capability as determined by any altered "state" described by NRCS Ecological Site Descriptions, in designated habitat management areas as a condition precedent to assessing the desired conditions in Table 2-2. In practice, the agencies are applying Table 2-2 as the end-all, and only as an afterthought does the current capability (e.g. seeding, cheatgrass monoculture) come into consideration. While this may not entirely maintain the credibility of all assessments, particularly during a permit renewal process, it would be a significant, positive step in the right direction to ensure any rational assessment of the desired conditions in Table 2-2 before any potential, unwarranted changes occurred to a grazing permit/lease.



The Idaho 2020 DSEIS indicates that there have been two "hard trigger" population trips since 2015. See 2020 DSEIS for Idaho, page 3-5. But the Idaho 2020 DSEIS fails to provide any substantive information on Sage-Grouse population levels and trends or any evaluation of how population status and trends affect the overarching purpose for the entire RMP amendment process "to avoid a potential listing" under the ESA as identified by the 2011 NOI that initiated the whole process.

#### **S-3.4.8 Adaptive Management**

The DSEIS effort attempts to weaken the 2015 outcomes by touting management flexibility. This so-called flexibility would greatly reduce BLM's accountability, lead to inconsistent standards of habitat protection, and allow fossil fuel, mining, ranching, and other corporate interests to more effectively bully BLM. This would continue the appalling pattern of "death by a thousand cuts" that has already devastated many sage grouse populations through cumulative habitat loss and fragmentation. BLM simply cannot be trusted to have the institutional courage to say no to corporate interests when it is necessary to protect sage grouse habitat.

Comment to Issue #10 - Modifying Adaptive Management Strategy - Any plan amendment in the FSEIS should adopt revised MD SSS 15, 20, 24, consistent with our other comments herein.

Custer County objects to the adaptive management measures proposed to address population declines in designated habitat, as currently written. The reason for this objection is that BLM has yet to add a clause regarding monitoring and managing predator numbers. Our concern is that BLM will be adjusting adaptive measures without consideration of a key factor in population cycles.

#### **S-3.4.9 Mitigation**

The State of Idaho and Idaho BLM have entered into a Memorandum of Agreement (MOA) to help minimize the impacts related to sage-grouse habitat, specifically anthropogenic disturbance and habitat fragmentation. There is no elimination of the compensatory mitigation requirement by using the state required no net loss within the 2019 Management Plans.

The net gain mitigation standard is an elusive standard and creates no certainty to project proponents. The state can find no clear authority for the federal agencies to require a net conservation gain standard. Deference should be given to the state's mitigation framework.

MD LR 14, sounds promising to allow flexibility in land tenure adjustments, though it omits a critical, needed exception related to including separate management direction to authorized land tenure adjustment to more simply: (a) sell or exchange isolated public land parcels enclosed by private or state land on 2 or 3 sides; and (b) sell or exchange public lands parcels subject to inadvertent agricultural use which would be technically or economically impracticable to mitigate or abate.

Finally, the 2019 amendments removed the net conservation gain standard from some state DSEISs whereas under the 2015 RMPs the BLM would require compensatory mitigation to offset the impacts to a net conservation gain standard. There is no analysis or disclosure of the environmental consequences of that decision. All these factors represent significant new information that warrant a supplemental analysis disclosing how this change would impact habitat loss and effectiveness of the BLM's conservation plans for sage-grouse.

Additionally, this DSEIS should report and analyze compliance with and acres mitigated through any voluntary or state of Idaho mitigation program that was required before and after the July 2018 policy was implemented up to present day.

The BLM rewrote the mitigation strategy to align with the State of Idaho's mitigation strategy. The "no net loss" mitigation standard is considered an overarching goal and objective in the approved plan. The soft population adaptive management trigger was changed to allow for early detection of population declines. Similar to other triggers based on population numbers, triggers based on acres lost need to incorporate actionable solutions to problems. The current NEP A analysis fails to adequately consider the positive aspects of livestock grazing in relation to fuel load reductions.

2015 Greater Sage Grouse Plans Were Not Consistent with FLMPA and the ESA Finally, the Idaho District Court found that discarding the "net conservation gain" standard and mandatory compensatory mitigation used in the 2015 plans, and which was central to FWS's not warranted decisions, eliminated protections without justification.<sup>18</sup> Despite this opinion, it has been well established that the net conservation gain standard and compelling mandatory compensatory mitigation is beyond the authority of the BLM under FLMPA. On July 24, 2018, BLM provided specific policy direction on the issue of compensatory mitigation through issuance of Instruction Memorandum (IM) No. 2018-093. Specifically, BLM directed that compensatory mitigation cannot be required as a condition for the use of public lands nor can BLM accept any monetary payment to mitigate the impacts of any proposed action. In all instances, BLM must refrain from authorizing any activity that causes unnecessary or undue degradation (UUD), pursuant to Section 302 of FLPMA.

The threat of habitat degradation and loss and the proverbial "death by a thousand cuts" is certainly further exacerbated by the Department of Interior's (DOI) decision to not require compensatory mitigation. BLM made this decision through Instruction Memorandum 2018-093, July 24, 2018, and later updated this policy to provide additional clarification regarding what the BLM will or will not require (IM2019-018). The DSEIS only references BLM's outdated compensatory mitigation Instruction Memorandum (IM 2018-093) and should reference the updated IM on compensatory mitigation (IM 2019-018). While the fundamentals didn't change, the BLM did strengthen the language related to their commitment to require state-required compensatory mitigation, and this should be included in this DSEIS.

The 2015 Approved Resource Management Plan Amendment (ARMPA) for Idaho and Southwest Montana (BLM 2015) provides a prime example of resource management policy derived from a collaborative, science driven process. The State's infrastructure recommendations are very protective within Priority Habitat Management Areas (PHMA) which support 73% of Idaho's sage-grouse. Some degree of development is allowed in Important Habitat Management Areas (IHMA) which support 23% of sage-grouse numbers but this zone is still largely managed in a way that preserves an intact and interconnected landscape for sage-grouse and other species. Under the State's proposal, the General Habitat Management Area (GHMA) and non-habitat areas, which support less than 4% of the sage-grouse population, receives the least amount of protection but the no net loss standard still applies. As such, we feel that the State recommendations are consistent with the conservation principle of avoiding, minimizing and mitigating impacts. We urge the BLM to revisit the mitigation framework outlined in the referenced 2015 ARMPA, which incorporates Idaho State plans, and continue to adopt strategies and design features that are applicable to Idaho. We also recommend reviewing and amending these plans as

needed to reflect the findings of the growing body of relevant scientific research and the changes in sage-grouse population numbers and habitat conditions.

Mitigation data also are fundamental to analyzing and understanding environmental consequences and cumulative impacts. Importantly, there are no analyses specific to BLM's use of compensatory mitigation prior to its new mitigation policy or thereafter. Acres of sage-grouse habitat impacted by development and those acres either mitigated, or not, represents significant new information. Since BLM only used data gathered through 2013 in their analyses for the 2015 land use plan amendments, additional analyses of mitigation data are warranted for the period after 2013 through July 2018, when BLM's new policy went into effect.

As previously stated, this approach of a tiered level of mitigation (i.e., core habitat has higher mitigation requirements) is consistent with Idaho's overall strategy. Maintaining GRSG populations in PHMA, and to a lesser extent, IHMA is and should be the primary focus. In correspondence to Governor Otter, USFWS analyzed the State's foundational plan elements and determined that the Governor's Plan was consistent with the COT report in this respect. BLM should honor commitments in those letters to Idaho. Moreover, imposing onerous mitigation restrictions in the GHMA to maintain less than 5% of the State's birds is not reasonable and is inconsistent with the three-tier approach.

All of the 2015 ARMPA documents were consistent with the "mitigation hierarchy" and required off-site compensation for residual, unavoidable impacts to Greater Sage-Grouse. However, in July of 2018, the BLM issued Instruction Memorandum No. 2018-093 which disclaimed BLM's authority to require resource users to implement compensatory mitigation (BLM 2018). The agency's justification for removing compensatory mitigation from resource management plans is based on a belief that the Federal Land Management and Policy Act (FLMPA), "cannot reasonably be read to allow BLM to require mandatory compensatory mitigation for potential temporary or permanent impacts from activities authorized on public lands," (BLM 2018 *supra* note 3). While we understand the BLM's desire to avoid potential jurisdictional overreach, the legal precedent and justification for this dramatic departure from established mitigation protocol and interpretation of FLMPA directives remains unclear at best and is ill-advised from both a conservation-centric and a multiple use perspective.

AEMA recognizes that states have broad authority over unlisted wildlife, and that BLM is directed under 43 CFR 24.3 to cooperate with the States regarding fish and wildlife management. However, BLM needs to clarify, in light of rights granted under the Mining Law to develop and occupy both unpatented and patented mineral claims how it will handle situations when the State requires compensatory mitigation.

AEMA recognizes that compensatory mitigation was one factor considered by the USFWS' in its decision to not list sage grouse under the Endangered Species Act (hereinafter ESA). However, the ESA requires that multiple factors be considered before making a determination on whether to list a species or not. While adequacy of regulatory mechanisms (or lack thereof) was the driver in this planning process in 2012, it would be inappropriate to equate use of compensatory mitigation as the silver bullet to protect sage grouse and avoid a listing. This line of thought fails to consider the multitude of other actions taken to improve habit and reduce disturbances to sage grouse at all levels of government. Moreover, there is not enough data on effectiveness of compensatory mitigation, specific to sage grouse, which would support implementing it on a widespread basis.

Additionally, the BLM has made it clear that it cannot require compensatory mitigation and would not "...deny proposed authorization in Greater Sage-Grouse habitat solely on the grounds that the proponent has not proposed or agreed to undertake voluntary compensatory mitigation." Interestingly, the BLM states on page 2-11 that "The state mitigation guidelines are scheduled to be finalized in late 2018." This DEIS was prepared in 2019 and released for public comment in 2020, so it remains unclear if the state mitigation plan has been finalized or not. While the BLM states it will ensure mitigation outcomes are consistent with the State of Idaho's mitigation strategy, it is not clear what those outcomes are, whether habitat function would be at least equal to the lost or degraded habitats, or how mitigation - or lack thereof - would affect habitat quantity and quality trends and thus sage-grouse populations.

#### **S-3.4.10 Lek Buffers**

Simplot supports the refinement of lek buffers as it was identified in the Draft RMPA under the Management Alignment Alternative. That approach protected the most critical habitat and provided better alignment with the Governor's Plan, while recognizing that buffers were not needed in GHMA. The Draft RMPA recognized that this approach was appropriate based on the fact that the No Net Loss mitigation standard would keep GRSG habitat at baseline. This alternative also incorporated the use of the United States Geological Survey (USGS) Literature Minimum Buffers, in IHMA and PHMA. This approach was modified based on comments received to the Draft RMPA resulting in increased buffer sizes in IHMA and buffer requirements for GHMA in the Final EIS and carried forward in the DSEIS. There is little explanation provided in either document as to why this approach is needed based on the conclusion in the Draft RMPA that the measures outlined in the Draft RMPA were already consistent with the No Net Loss Standard.

Comment as to Issue #4 - Modifying Lek Buffers - Any plan amendment in the FSEIS should allow modifications of any PHMA, IHMA, or GHMA buffers based upon "Justifiable Departures" and based upon "Buffer Exception Criteria for IHMA and GHMA". The DSEIS further discusses Issue #4 at page 2-6, noting revisions from the 2015 ARMPA as to MD SSS 35. See also DSEIS, Appendix I, at pages App-I-141 to App-I-144. We support this revision from the 2015 ARMPA's reference and reliance in MD SSS 35 upon the "USGS Report Conservation Buffer Distance Estimates for Greater Sage-Grouse - A Review (Open File Report 2014-1239)", see 2015 ARMPA at page 2-5, to the lek buffer distances in accordance with Appendix B [of the 2018 Final EIS]", see DSEIS at page 2-6. See also DSEIS at page 2-15 (wherein the DSEIS reports the amendment to Appendix B, as to modification of buffer distances in IHMA and GHMA). We are specifically supportive of the plan amendment to allow modifications of any PHMA, IHMA, or GHMA buffers based upon "Justifiable Departures", as defined in the DSEIS, Appendix B, at page App-B-2, see also page App-B-3, and based upon "Buffer Exception Criteria for IHMA and GHMA", as defined in the DSEIS, Appendix B, at page App-B-2, see also page App-B-3. While we are generally supportive of the opportunity to revise, we stress, as we did in our comments to the 2015 process and to the 2019 process, that the "modeling" must be "ground-truthed" and verified, as per our previous comments, and our comments herein above at V. It is our experience that the federal and State agencies are not ground-truthing and verifying the habitats.

We support the revised lek buffers proposed by the State of Idaho with the caveat that they may need to be adjusted over time, depending on the best available science. While some of these buffers represent the BLM minimum effective buffers in the scientific literature and are not as [FIGURE (SEE ATTACHMENT): State of Idaho Proposed Lek Buffers] Table I. State of Idaho Recommended Buffers

protective as the buffers in Alternative 1, they represent significant improvements over the Management Alignment Alternative (see Table 1). We feel they will be adequately protective of sage-grouse when combined with the direction to avoid siting infrastructure in Priority and Important Habitat Zones. The BLM should also commit to annual reviews of scientific studies regarding the effectiveness of these buffers and revise the buffers as needed.

Flexibility in lek buffer application should be based on site-specific information, habitat type, habitat quality, and type of development, not a one-size-fits-all approach.

### **S-3.4.11 Data and Science**

In Idaho, sage-grouse numbers have dropped 52 percent since 2016.

Improved Prioritization of GRSG Management Author: Coates et al. Year: 2017 Title: Hierarchical population monitoring of greater sage-grouse (*Centrocercus urophasianus*) in Nevada and California- Identifying populations for management at the appropriate spatial scale: U.S. Geological Survey Open-File Report 2017-1089, 49 p., <https://doi.org/10.3133/ofr20171089>. Implications: The authors, describe a novel monitoring framework and "early warning system" for estimating annual rates of population change for GRSG within a Bayesian hierarchical and spatially nested structure. This approach "allows for separation of population trends occurring as a result of local and more manageable stressors, relative to those occurring at broader scales" (i.e. broad-scale wildfire and region-wide drought). "Built-in spatial and temporal thresholds help guard against implementing unnecessary management action for populations that falsely signal a warning." Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement; mitigation; population dynamics Significance: New method for population and subpopulation management Comments: Significant improvement over LUP "triggers"

Improved Habitat Mapping and Assessment Author: Clawson et al. Year: 2017 Title: Performing statistical population reconstruction using program PopRecon 2.0: Wildlife Society Bulletin, v. 41, no. 3, p. 581-589. Implications: Introduced a population estimation program PopRecon 2.0 that used GRSG hunt harvest data from Oregon to reconstruct population dynamics. Most significantly, the study found that, "Population estimates for the eastern Oregon populations were variable, demonstrating cyclical population dynamics and high variability in recruitment, and comparable to estimates from other research." Supersedes NTT: Yes Supersedes COT: Yes Issue: Technique refinement; population trend reconstruction Significance: Found population trends to be cyclical (similar to papers on influence of regional climate/weather patterns).

For example, the Idaho DSEIS includes a summary of range-wide population declines through 2011 (at 3-2), but fails to include information within the agency's possession about subsequent declines since that time.

### **S-3.4.12 Sage-Grouse**

Population Connectivity Author: Row et al. Year: 2018 Title: Quantifying functional connectivity: the role of breeding habitat, abundance, and landscape features on range-wide gene flow in sage-grouse: Evolutionary Applications, v. 11, no. 8, p. 1305-1321. Implications: Compared estimated connectivity (from resistance models) and genetic differentiation (from microsatellite genotypes from 6,844 GRSG) within five long-established Sage Grouse Management Zones (MZ) I-V. "It was clear from our cross-validation that the predictive ability of our resistance models varied with the levels of genetic

differentiation and among management zones. ... Without our cross-validation to provide an estimate of predictive ability, conservation initiatives could direct actions that will not have the desired improvement on connectivity." Also found that individuals are willing to travel through undesirable habitat if lek attendance is low. Supersedes NTT: Yes Supersedes COT: Yes Issue: Connectivity; Mitigation (Technique refinement) Significance: Identification and prioritization of movement corridors. Cross-validation needed before applying resistance models. Comments: Important paper, additional review suggested.

Population Connectivity Author: Ramey et al. Year: 2018 Title: Local and population-level responses of greater sage-grouse to oil and gas development and climatic variation in Wyoming: PEERJ, v. 2018, no. 6, p. e5417, <https://doi.org/10.7717/peerj.5417>. Implications: Hierarchical models were used to estimate the effects of the areal disturbance due to well pads as well as climatic variation on individual lek counts and Greater sage-grouse populations (management units) over 32 years. Modeling revealed that oil and gas had a strong negative effect on local-scale lek attendance within a 3.2 km radius around a well. Oil and gas was a weak predictor of population-scale changes, but appeared consistent with local-scale responses. The PDO was found to be a strong predictor of long-term population density fluctuations at local and population scales. Supersedes NTT: Yes Supersedes COT: Yes Issue: Climate (regional climatic variation); population fluctuations; oil & gas Significance: PDO was the major driver of population trends rather than oil and gas development Comments: Wildlife agencies need to account for the effects of regional climatic variation when managing sage-grouse populations.

Population Connectivity Author: Oh et al. Year: 2019 Title: Conservation genomics in the sagebrush sea: Population divergence, demographic history, and local adaptation in sage-grouse (*Centrocercus* spp.): Genome Biology and Evolution, v. 11, no. 7, p. 2023-2034., <https://doi.org/10.1093/gbe/evz112> Implications: The Washington population's genetic dissimilarity potentially makes it important as a "reservoir" for improving genetic diversity of other populations via translocation. The authors suggested that special protections for this population may therefore be warranted "highly differentiated populations like the Washington greater sage-grouse may warrant recognition and protection as a genetically distinct conservation unit. "However, possible adaptation to local sagebrush varieties may complicate translocation of individuals between populations. Issue: Connectivity; Mitigation; potential identification of genetic reservoirs Significance: Also, suggests need for a new Washington DPS. Comments: Caveat: Extensive use of adjectives to describe results rather than comparative statistics to other studies or genetic markers. Possible that genetic differentiation may be due to bottleneck(s) and recent isolation rather than isolation or adaptation (needs testing).

Population Connectivity Author: Fedy et al. Year: 2017 Title: Integration of genetic and demographic data to assess population risk in a continuously distributed species: Conservation Genetics, v. 18, no. 1, p. 89-104 Implications: By combining genetic and demographic information, authors identified four genetic clusters in different regions of Wyoming with different population trends and lek activity. Management plans can be tailored to the needs of distinct clusters that have different population trajectories, particularly if threats and effects vary regionally. Wyoming clusters could be managed as three units (two northern, one southern). Future studies should address the cyclic nature of GRSG populations in trend estimation. Supersedes NTT: Yes Supersedes COT: Yes Issue: Connectivity/population management units; Climate (regional variation); Significance: Method for prioritization and tailoring of management based on genetic clusters. Notes need for accounting for

cyclic nature of population fluctuations. Comments: Clearly an alternative to the one-size-fits-all approach of NTT.

Population Connectivity Author: Davis et al. Year: 2015 Title: Genetic structure of greater sage-grouse (*Centrocercus urophasianus*) in a declining, peripheral population: *The Condor*, v. 117, no. 4, p. 530-544. Implications: The study assessed genetic diversity within and between lek sites, spatial genetic structure, within-lek relatedness, and dispersal patterns. The GRSG surveyed had genetic diversity similar to less isolated populations in the center of the range. GRSG in northeastern California are a single genetic population with evidence of gene flow between the leks, despite the fact that leks there are farther apart than those elsewhere across the GRSG range. Individuals at leks were largely unrelated to each other, and females had higher gene flow and greater dispersal distances than males. Supersedes COT: Yes Issue: Connectivity; dispersal Significance: Greater dispersal and genetic connectivity than expected Comments: Movements inferred from population genetic data; Dispersal is critical factor to maintain genetically viable grouse populations

Population Connectivity Author: Cross et al Year: 2018 Title: The genetic network of greater sage-grouse: range-wide identification of keystone hubs of connectivity: *Ecology and Evolution*, v. 8, no. 11, p. 5394-5412. Implications: Maintaining hubs and keystone nodes is important for GRSG connectivity, gene flow, and resilience. The loss of these habitats or populations could reduce gene flow and diversity disproportionately across the species' range. Issue: Connectivity; Conservation priorities Significance: Long distance movements & Population connectivity; Comments: Data-driven estimates of population connectivity.

Population Connectivity Author: Cross et al Year: 2016 Title: Hierarchical population structure in greater sage-grouse provides insight into management boundary delineation: *Conservation Genetics*, v. 17, no. 6, p. 1417-1433. Implications: This study sought to quantify dispersal of males and females among leks, some over long distances using genetic data from 3,244 genetic samples from 763 leks. There were 80 recaptures. "Of the recaptures, half were at the same lek in a different year, and half were at a different lek in the same year or a different year." And, "Two recaptured males were detected at three different leks, visiting leks 14 to 90 kilometers apart in the same year." Such long-distance dispersal, even by a few males can provide genetic linkages among distant populations formerly thought to be isolated. Supersedes NTT: Yes Supersedes COT: Yes Issue: Connectivity; (Technique refinement) Significance: Long distance GRSG movements & population connectivity; Habitat mapping Comments: Data-driven estimates of dispersal and lek-switching

Population Connectivity Author: Crist et al Year: 2017 Title: Range-wide connectivity of priority areas for greater sage-grouse-Implications for long-term conservation from graph theory: *The Condor*, v. 119, no. 1, p. 44-57. Implications: Published version of Crist et al. 2015, used circuit theory and network analyses to analyze connectivity between identified priority areas and potential isolation of some areas or populations. Based on priority areas from each state. Did not use actual genetic data or lek data for analysis. Issue: Connectivity Significance: Long distance movements & Population connectivity Comments: Caveat: sage grouse do not behave like electrical currents

Population Connectivity Author: Crist et al Year: 2015 Title: Range-wide network of priority areas for greater sage-grouse-A design for conserving connected distributions or isolating individual zoos?: U.S. Geological Survey Open-File Report 2015-1158, 34 p. Implications: Used graph theory a to analyze connectivity between identified priority areas and potential isolation of some areas or populations.

"Similar information was later addressed by Crist and others (2017), also summarized in this report."

Issue: Connectivity Significance: Long distance movements & population connectivity Comments: Caveat: used graphy theory in GIS analysis, a poor substitute for actual dispersal data.

#### **S-3.4.13 Livestock Grazing**

DSEIS should not assume the continued application of "Subpart 4180", see DSEIS at page 2-9, when 43 C.F.R Part 4100, inclusive of Subpart 4180, is subject to a current rulemaking process. See 85 Fed.Reg. 3410 (1/21/2020) (wherein USDI-BLM issued a Notice of Intent To Prepare an EIS for the Proposed Revision of Grazing Regulations for Public Lands); see also <https://eplanning.blm.gov/epl-frontoffice/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage&currentPageId=200000311> (last check 4/5/2020 @ 11:54 A.M.) (wherein USDI-BLM commented that the scoping period for the proposed rule-making closed on March 6, 2020, and wherein, under information and belief, comments were made to remove Subpart 4180 from 43 C.F.R. Part 4100). Any plan amendment in the FSEIS should ensure consistency with such rulemaking process.

Improper livestock grazing is a secondary threat in Idaho that should be managed using existing regulations. The USFWS's 2010 Warranted but Precluded determination recognized rangeland health standards as an adequate regulatory mechanism. The 2015 ROD/ARMPA imposes uniform and unnecessary grazing standards and does not incentivize proper livestock grazing (e.g., the grazing permit renewal thresholds requirement for allotments in SFAs is unnecessary).

The DSEIS claims that the changes to the livestock management decisions are largely editorial. Idaho DSEIS at 4-31. We provided extensive comments and protests of the proposed management in the FEIS, for Idaho and all other plans, and we believe the changes were in fact substantial. The FEIS and the DSEIS eliminated the requirement that BLM proactively impose thresholds/responses in grazing permit renewals, removed requirements that PHMA would be prioritized, and weakened habitat objectives, among other changes. See, e.g. Anderson Declaration, Attachment R. The DSEIS does not sufficiently analyze the impacts of those changes.

#### **S-3.4.14 Solid Minerals**

Custer County recommends BLM work with local agencies and choose the specific design features that address the limiting factors for sage-grouse at the sites being addressed instead of implementing what amount to arbitrary and capricious one size fits all activities.

There continues to be no discussion in the Final EIS or the DSEIS of the consequences of prohibiting or limiting access to hundreds of thousands of acres of phosphate ore. There is no further supporting analysis to discuss the effects on fertilizer availability, fertilizer sources and prices, and implications for national food security. Reasonably Foreseeable Development Scenario (RFDS) have been developed for oil and gas leasing and geothermal development but there is no analysis for non-energy mineral development. The RMPA/EIS should have included a complete and thorough analysis of the economic effects of closing 16,270,500 acres, or 59% of the federal non-energy leasable mineral estate decision area (including all federal non-energy leasable mineral estate in PHMA outside KPLAs) to prospecting and leasing.

As described earlier, mining was not identified as a primary threat to the GRSG. BLM needs to evaluate what projects or potential projects are actually contemplated during the time horizon of the EIS under



current budget constraints and factor that into the analysis, rather than uniformly applying restrictive measures that will do nothing to further the conservation of the bird.

AEMA recommends that BLM make clear that the restrictions cited throughout letter do not apply to locatable minerals and that mitigation above that of preventing unnecessary or undue degradation as defined in the 43 CFR Subpart 3809 regulations is not lawful. Although AEMA appreciates the clarifications in the Bald Mountain and Gold Bar EIS' and the response to comments that locatable mineral activities are non-discretionary, and that the density restrictions do not apply to locatable mineral operations, this clarification needs to be stated throughout the proposed plan, which is a programmatic NEPA document to which subsequent project-level NEPA documents can be tiered and incorporated by reference. Explicit clarifications regarding the management of locatable minerals are necessary for the regulated community and future administrations in order to minimize the potential for future confusion, permitting delays, and litigation.

### **S-3.5 FEDERAL AGENCY COMMENTS**

Comments from the EPA are summarized and responded to in **Section S-3.2.3**.

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